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Monticello Mill Tailings Site

Environmental Report for Calendar Year 1999

October 2000

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ENVIRONMENTAL REPORT FOR CALENDAR YEAR 1999
10/00



U.S. Department
of Energy

GRAND JUNCTION OFFICE

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MEMO TO: Distribution

FROM: M. J. Gardner *[Signature]*

DATE: October 20, 2000

SUBJECT: Distribution of *Monticello Mill Tailings Site Environmental Report for Calendar Year 1999*

Attached for your information is the *Monticello Mill Tailings Site Environmental Report for Calendar Year 1999*, which has been approved for public release by the DOE-GJO. The report provides a summary of environmental monitoring data collected at the Monticello Mill Tailings Site during 1999, an update of the site's environmental management performance, a comparison of the monitoring data with established standards and regulations, and a description of the significant programmatic accomplishments during the past year.

Please call me at Extension 6031 if you have any questions.

MJG/ksy
Attachment

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Monticello Mill Tailings Site Environmental Report
for Calendar Year 1999

October 2000

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Abbreviations and Acronyms

ACM	asbestos-containing materials
BLM	Bureau of Land Management
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	U.S. <u>Code of Federal Regulations</u>
CFS	cubic feet per second
COE	U.S. Army Corps of Engineers
DCG	derived concentration guideline
DOE	U.S. Department of Energy
ECL	Environmental Checklist
EDE	effective dose equivalent
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERA	Ecological Risk Assessment
FFA	Federal Facility Agreement
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
GJO	Grand Junction Office
HDPE	High Density Poly Ethylene
IWMA	Interim Waste Management Area
LEPC	Local Emergency Planning Committee
MRAP	Monticello Remedial Action Project
NEPA	National Environmental Policy Act
m ³ /min	cubic meters per minute
mg/L	milligrams per liter
MMTS	Monticello Mill Tailings Site
mrem	millirems
mrem/yr	millirems per year
μCi/ml	microcuries per milliliter
μg/L	micrograms per liter
μg/m ³	micrograms per cubic meter
μmhos/cm	micromhos per centimeter
OU	operable unit
PCB	polychlorinated biphenyl
pCi/L	picocuries per liter
pCi/m ² /sec	picocuries per meter squared per second
pCi/μg	picocuries per microgram
PeRT	Permeable Reactive Treatment wall (barrier)
PM ₁₀	particulate matter less than or equal to 10 micrometers in diameter
QA	Quality Assurance
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RI/FS—EA	Remedial Investigation/Feasibility Study—Environmental Assessment

Abbreviations and Acronyms (continued)

RO	Reverse Osmosis
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SER	Site Environmental Report
SERC	State Emergency Response Commission
SSAB	Site Specific Advisory Board
SWMP	<i>Special Waste Management Plan for the Monticello Mill Tailings Site and Vicinity Properties</i>
TDS	total dissolved solids
TLD	thermoluminescent dosimeter
TSCA	Toxic Substances Control Act
TSF	Temporary Storage Facility
TSI	thermal system insulation
U.A.C.	Utah Hazardous Waste Management Rules
UDEQ	Utah Department of Environmental Quality
UPDES	Utah Pollutant Discharge Elimination System
UST	underground storage tank
WWTP	Wastewater Treatment Plant

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Executive Summary

U.S. Department of Energy (DOE) Order 5400.1, *General Environmental Protection Program* and DOE Order 231.1, *Contractor Requirements Document, Environment Safety and Health Reporting* require that "...all DOE facilities that conduct significant environmental protection programs shall prepare an Annual Site Environmental Report (SER)." The purpose of this report "... is to present summary environmental data so as to characterize site environmental management performance, confirm compliance with environmental standards and requirements, and highlight significant programs and efforts."

This SER presents an update of environmental activities conducted during calendar year 1999 at the Monticello Mill Tailings Site (MMTS) in Monticello, Utah. With the exception of environmental monitoring activities (air, surface water, groundwater monitoring, etc.) that may occur on private property, this SER addresses primarily activities performed by the DOE on DOE owned and administered properties in Monticello, Utah. DOE remedial actions conducted on privately owned properties are outside the scope of this document. MACTEC-ERS L.L.C., the technical assistance and remediation contractor for the DOE-Grand Junction Office (GJO), prepared this report in accordance with the substantive requirements of DOE Order 5400.1, *General Environmental Protection Program* and DOE Order 231.1, *Contractor Requirements Document, Environment Safety and Health Reporting*.

Many of the environmental activities conducted at the MMTS during 1999 were associated with the continued excavation and placement of radioactive uranium and vanadium mill tailings into the repository, operation of the wastewater treatment plant (WWTP), closure of the repository, and monitoring of environmental media.

Noteworthy events and accomplishments during 1999 include: the completion of excavating all contaminated materials from the millsite; the installation of the final cover on the repository and final closure of the disposal cell; the initiation of the process to transfer ownership of the former millsite property to the City of Monticello; the removal and decommissioning of various support facilities that were no longer needed (i.e., the WWTP, the Interim Waste Management Area [IWMA], and various access control structures and facilities); construction of the Permeable Reactive Treatment (PeRT) wall downgradient of the millsite; construction of the Temporary Storage Facility (TSF) for the temporary storage of mixed and hazardous wastes; completion of the archaeological inspections required during remediation of the millsite; the approval of four supplemental standards applications to leave residual contaminated materials in place; and the continued monitoring of environmental media.

The repository is located 1 mile south of the Monticello millsite and contains tailings and other byproduct materials as well as hazardous substances and wastes from the remediation of contaminated properties. Construction of the repository and installation of the liner system was completed in November 1996. Placement of mill tailings into the repository began in June of 1997. During calendar year 1999, approximately 1.2 million cubic yards of mill tailings and related materials were placed into the repository. The repository was officially closed on October 6, 1999. At the time of closure, the volume of tailings placed into the Monticello disposal site totaled approximately 2,545,000 cubic yards (3,666,000 dry tons), and the total activity of the tailings was calculated to be 2,780 curies of radon-226.

The WWTP was designed to treat contaminated surface runoff from the millsite and groundwater encountered during the excavation of contaminated materials. The WWTP continued operation until May 1999 when it was shut down because it was no longer needed. During 1999, routine sampling and analysis of the effluent water demonstrated that all Utah Pollutant Discharge Elimination System (UPDES) discharge requirements were achieved. Influent water also was sampled and analyzed routinely to ensure that correct operating parameters were selected. The WWTP was decommissioned because of the diminishing quantity of water requiring treatment. Environmental Protection Agency (EPA) and Utah Department of Environmental Quality (UDEQ) approved of discharging surface runoff and groundwater directly to Montezuma Creek from areas in which all contamination had been removed. As millsite areas were verified clean, silt fences were constructed in accordance with construction specifications and water was allowed to sheet flow to Montezuma Creek. After decommissioning of the WWTP, water from contaminated millsite areas was directed to the East Pond. For the remainder of 1999, East Pond water was either pumped to Pond 4 for evaporation, or used for dust control in contaminated areas of the millsite or repository. The WWTP, including the temporary building surrounding it, was removed from the site by the end of May 1999. Removal of contaminated material from Pond 3 (the influent water holding pond) was completed in July 1999. All contaminated materials were placed into the repository.

Radiological and nonradiological environmental monitoring programs at the MMTS included monitoring of atmospheric radon, particulate matter, direct gamma radiation, surface water, and groundwater. Atmospheric radon concentrations measured during 1999 exceeded the EPA standard at two locations on DOE property, but were below the standard at all off-site locations. Maximum airborne concentrations of radium-226, thorium-230, total uranium, and particulate matter less than or equal to 10 micrometers in diameter (PM₁₀) measured in samples from all locations were below EPA standards and the regulatory limits specified by DOE Order 5400.5, *Radiation Protection of the Public and the Environment*. Off-site dose modeling for the MMTS was conducted to determine compliance with the DOE/EPA standard of 100 millirems per year (mrem/yr) above background. The dose, calculated by summing the radon, air particulate, and direct gamma source terms, was below the DOE/EPA standard.

Surface water sampling results indicated that water quality in Montezuma Creek continued to improve in 1999. There were no State of Utah standards exceeded in samples collected from Montezuma Creek on the millsite. Downstream of the millsite, the gross alpha and TDS standards were exceeded at all Montezuma Creek locations. Continuing improvement of water quality in Montezuma Creek is attributed to remedial activities at the millsite and downstream along Montezuma Creek.

There were no Federal or State of Utah ground water standards exceeded in samples collected from upgradient wells or permanent wells on the millsite. Samples collected from temporary wells on the millsite exceeded the standards for molybdenum, selenium, and uranium. Downgradient of the millsite, standards for molybdenum, net alpha, nitrate as N, pH, selenium, radium-226 + radium-228, and uranium-234 + uranium-238 were exceeded in samples from one or more alluvial wells. With the exception of well 95-06, results of samples collected from downgradient Burro Canyon wells were below applicable standards. The Federal standard for uranium-234 + uranium-238 was exceeded in samples collected from well 95-06, which is consistent with historical results.

A permeable reactive treatment (PeRT) wall was installed during 1999 east of the millsite as a potential treatment technology for contaminated alluvial ground water. A network of approximately 50 wells were installed at the PeRT wall. Monitoring was conducted in September, October, and November of 1999 to assess the performance of the PeRT wall as a treatment technology. Initial results indicate the PeRT wall is effectively treating the contaminated ground water.

During 1999, in keeping with the intent of applicable DOE orders and all applicable or relevant and appropriate Federal and State environmental rules and regulations, DOE continued to monitor various environmental media and to work towards completion of the various environmental restoration programs at the MMTS. Monitoring of environmental media will continue in an on-going effort to document and analyze the impacts that environmental restoration activities have on environmental resources, and to determine compliance of site activities and processes with environmental regulations.

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1.0 Introduction

The MMTS, located in San Juan County, Utah, comprises several tracts of land, including the Monticello millsite, the former Bureau of Land Management (BLM) compound, the South Site, and 29 peripheral properties surrounding the millsite. The DOE owns the former three tracts and several of the peripheral properties. Other entities or individuals own the remaining peripheral properties.

Remediation of the MMTS has been divided into three operable units (OUs) (Figure 1). OU I consists of the excavation of mill tailings and other hazardous substances from the millsite and their containment in the permanent repository (located on the South Site). OU II consists of the remediation of radioactively contaminated soils, by-product materials, and hazardous substances from private and DOE-owned properties peripheral to the millsite. Remedial action for OU III addresses contaminated groundwater and surface water on and downgradient of the millsite and contaminated soil and sediment deposited downstream of the millsite. Specific site features discussed in this SER (e.g. the former millsite, repository, WWTP, Ponds 3 and 4, etc.) are depicted in Figure 2.

Consistent with its commitment to public involvement, the DOE maintained an active presence in the community during the remediation of the millsite. The DOE established a Site Specific Advisory Board (SSAB), an independent forum designed to facilitate direct contact among the public and State and Federal agencies and to develop and communicate citizen recommendations. A toll-free hot-line (1-800-269-7145), news releases, advertisements, and updated fact sheets were other means used by DOE to keep the public informed as to the progress of the project and to provide an opportunity for public comment and input. With the conclusion of remedial activities associated with the MMTS, the SSAB was disbanded on October 20, 1999; however, local residents may still contact DOE via the toll-free phone number or by contacting the DOE Site Engineer at the Monticello Area Office (1-435-587-4049).

This annual SER presents an information update for environmental activities conducted at the MMTS during calendar year 1999. Significant milestones attained in 1999 are also summarized. Environmental monitoring data for calendar year 1999 are presented in the appendix.

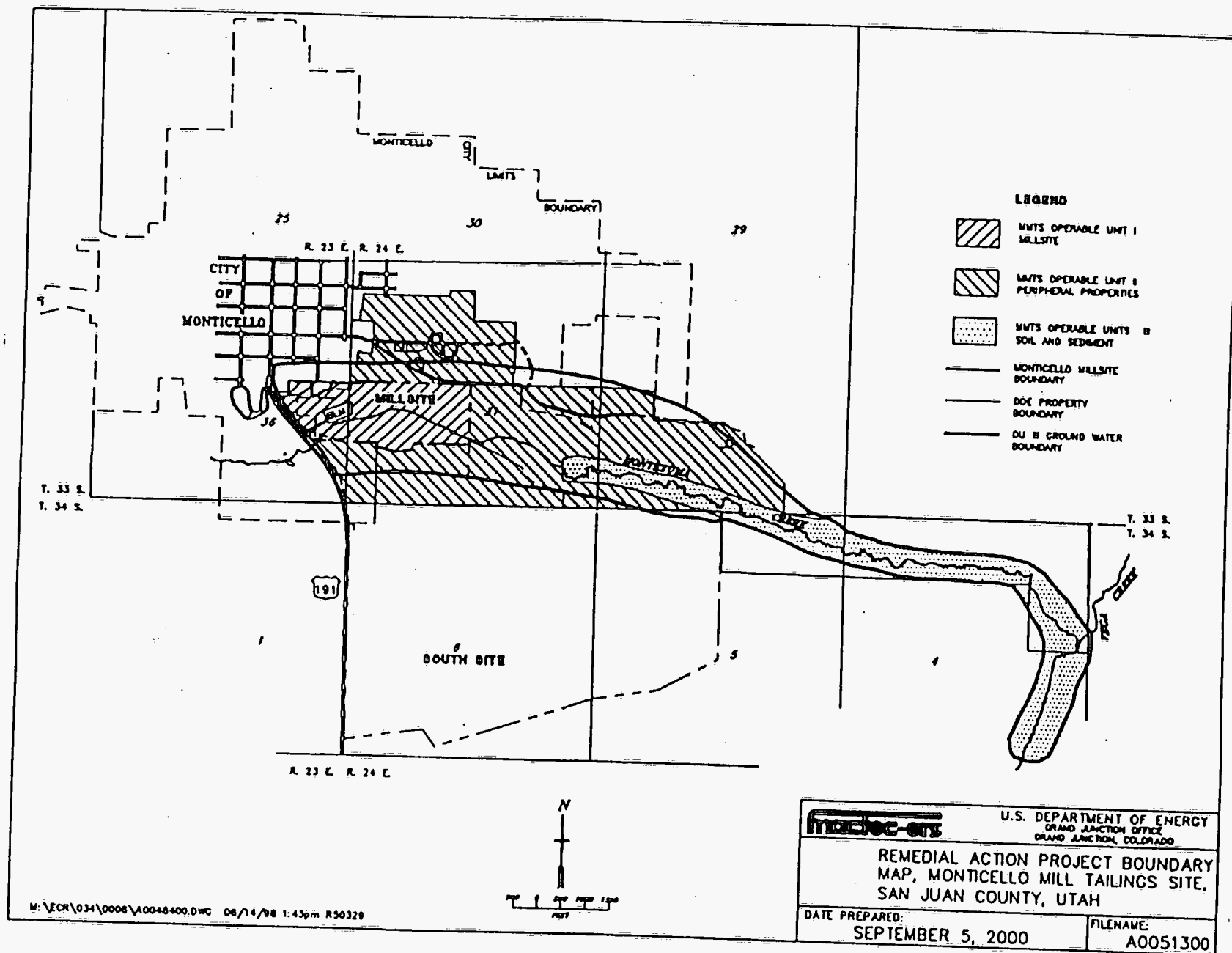


Figure 1. Remedial Action Project Boundary Map, Monticello Mill Tailings Site, San Juan County, Utah

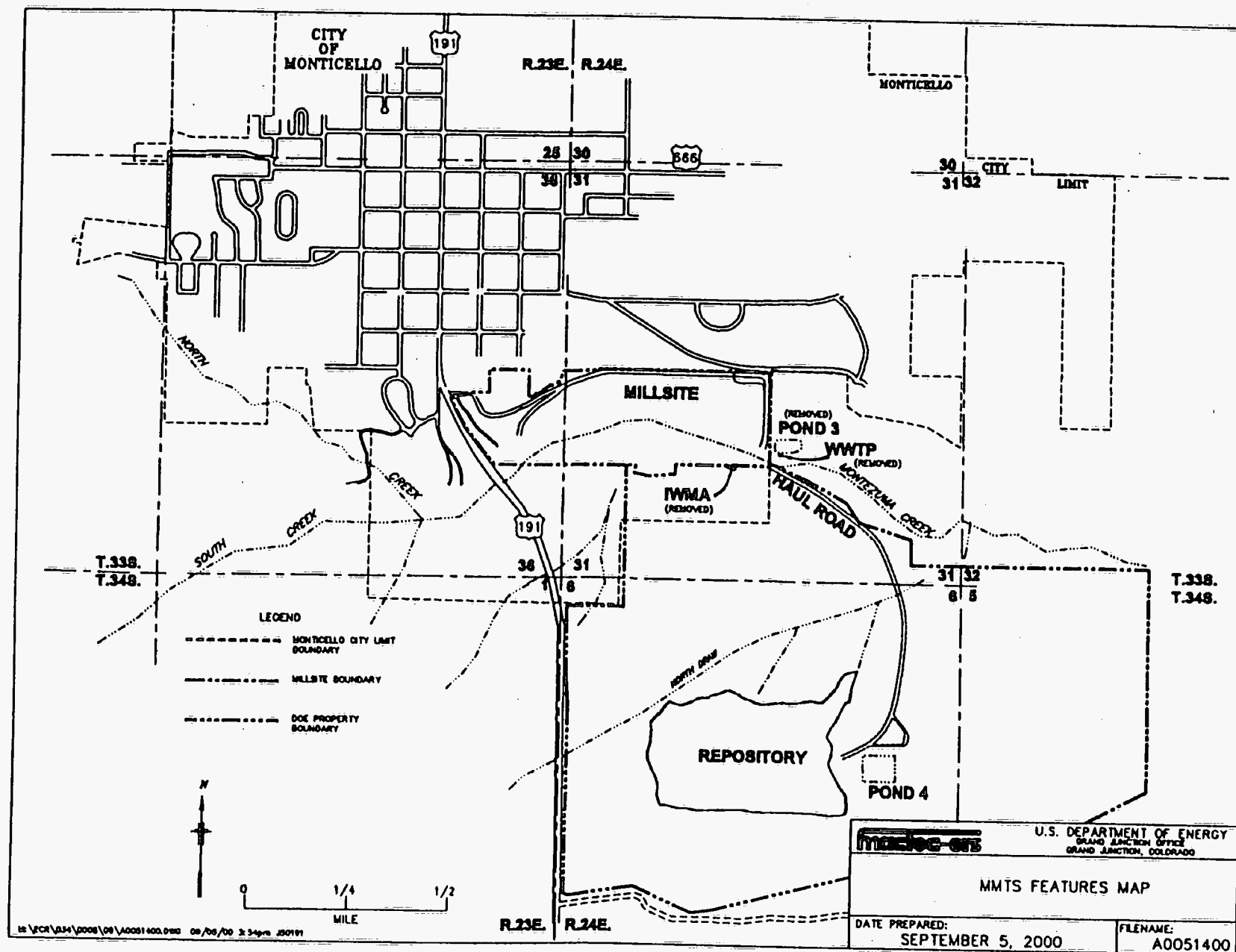


Figure 2. MMTS Features Map

2.0 Compliance Summary

2.1 Compliance Status

The compliance status for the major environmental statutes and Executive Orders applicable to the MMTS is discussed in this section.

2.1.1 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Pursuant to Section 120 of CERCLA, a Federal Facility Agreement (FFA) among the DOE, EPA, and the State of Utah became effective December 1988. The FFA establishes performance measures for completing response actions at the MMTS. These performance measures, or milestones, are enforceable by the FFA. The *Monticello Site Management Plan* (DOE 1999a) establishes the overall plan, timetables, deadlines, and schedules for the performance and documentation of discrete tasks and response actions at the MMTS. Table 1 summarizes the 1999 MMTS enforceable milestones. During 1999, DOE met all enforceable milestones. DOE activities conducted at the MMTS in 1999 were compliant with all applicable CERCLA regulations and requirements.

Table 1. Compliance with CERCLA Enforceable Milestones for 1999

Milestone	Completion Date
OU I – Millsite Restoration – Submit Pre-Final Design to EPA/Utah (Primary Document)	November 30, 1999 ¹ (June 13, 2000)
OU II – Complete Remedial Action (including restoration) for Montezuma Creek Properties	September 30, 1999
OU II – Submit Supplemental Standards Applications	October 8, 1999
OU III – Surface Water / Groundwater RD/RA IRA, Draft-Final RD/RA Work Plan	March 15, 1999

¹ Date missed. Schedule revised to reflect Cooperative Agreement with the City of Monticello. No enforcement action taken by EPA/UDEQ. Revised date is shown in parenthesis.

The DOE is remediating the MMTS under a 1990 Record of Decision (ROD) in accordance with CERCLA. The ROD establishes that once removal of contaminated material is complete, DOE shall be responsible for the revegetation of the millsite. Starting in 1995, the DOE was actively involved with the Monticello SSAB in discussions regarding the transfer of the millsite property to the City of Monticello. In October 1999, a cooperative agreement between the City of Monticello and the DOE was signed in which the DOE agrees to compensate the City for restoration of the millsite in-lieu of preparing a design for and performing the millsite restoration, subject to certain requirements mandated by the EPA and UDEQ.

Remediation at the site has been divided into three phases identified as OU I, OU II, and OU III. OU's I and II involved removing surface soil contamination from the Monticello Millsite and Peripheral Properties, respectively. OU III addresses ground water and surface water

contaminated by tailings at the site. Some of the properties proposed for transfer to the City of Monticello are underlain by contaminated ground water.

During 1999, the DOE completed surface soil remediation at the Monticello Millsite (OU I) and Peripheral Properties (OU II) as required by the MMTS ROD. A final remedy has not been selected for OU III; however, an interim remedial action is being conducted. Although surface soil contamination has been removed under OU I and OU II, verification data has not been provided to EPA and UDEQ and the site has not been restored to approximate pre-mill conditions as required by the ROD. Therefore, the selected response action has not been completed for either OU I or OU II. None of the MMTS OU's have been deleted from the National Priority List.

The DOE has been working with the City of Monticello to transfer the Monticello Millsite and several adjacent peripheral properties to the City for beneficial public use. These lands are located immediately south of the city limits. CERCLA Section 120(h)(3)(c)(i)-(iv) allows transfer of federal property to an entity other than another federal agency prior to completion of the selected response action on the property. The EPA has developed guidance entitled, "*EPA Guidance on the Transfer of Federal Property by Deed Before All Necessary Remedial Action Has Been Taken Pursuant to CERCLA Section 120(h)(3)*" that assists EPA in determining if a site is suitable for early transfer. Early transfer means transferring ownership of the property prior to completing the selected response action.

The above referenced guidance requires that a Covenant Deferral Request be submitted to the EPA and UDEQ, and that the EPA and UDEQ concur with the finding that the property is suitable for early transfer. During 1999, the DOE worked closely with the EPA and UDEQ preparing this request. The request was submitted to the EPA and UDEQ in February 2000.

2.1.2 Superfund Amendments and Reauthorization Act, Title III (SARA Title III)

The Emergency Planning and Notification Requirements (Section 301-303) of the Emergency Planning and Community Right-to-Know Act (EPCRA) (also known as SARA Title III) require the owner or operator of a facility to notify the State Emergency Response Commission (SERC) within 60 days if extremely hazardous substances (identified as 40 U.S. Code of Federal Regulations [CFR] 355.20) are present at the facility in amounts that exceed regulatory thresholds. A review of the chemicals and quantities stored and used at the MMTS, showed that an extremely hazardous substance (sulfuric acid) was stored in an amount that exceeded its regulatory threshold; therefore, the MMTS was subject to EPCRA emergency notification requirements during 1997. A notification letter was drafted and submitted to the SERC, the Local Emergency Planning Committee (LEPC), and the local fire department on June 20, 1997. No further notification was required during reporting year 1999.

An inventory of hazardous chemicals and extremely hazardous substances stored at the MMTS was maintained and updated monthly during calendar year 1999. Four chemicals (#2 diesel fuel, sulfuric acid, barium chloride, and iron powder) exceeded the regulatory threshold established at 40 CFR 370.20(b)(2) and became subject to Tier Two reporting requirements under Sections 311 and 312 of EPCRA. A *Utah Tier Two - Emergency and Hazardous Chemical Inventory Report* was prepared for the chemicals which exceeded their regulatory/reporting thresholds for calendar

year 1999 at the MMTS. It was submitted to the SERC, the LEPC, and the local fire department on January 27, 2000.

The status of additional SARA Title III requirements include:

- Sections 301-303: Emergency Planning Notification - Required. Notification letter sent to SERC, LEPC, and local fire department on June 20, 1997. Additional notifications not required during 1999.
- Section 304: Emergency Notification - Not required during 1999.
- Sections 311-312: Material Safety Data Sheets/Chemical Inventory - Required. A *Utah Tier Two - Emergency and Hazardous Chemical Inventory Report* for reporting year 1999 was sent to the SERC, LEPC, and local fire department on January 27, 2000.
- Section 313: Toxic Chemical Release Inventory Reporting - Not required during 1999.

2.1.3 Resource Conservation and Recovery Act (RCRA)

The Utah Hazardous Waste Management Rules (U.A.C. 1996) are considered applicable requirements when hazardous waste must be managed as part of the remedial action activities. To address the State and Federal requirements under RCRA, DOE prepared the *Special Waste Management Plan for the Monticello Mill Tailings Site and Vicinity Properties* (SWMP) (DOE 1997a). This document, which has been reviewed by the EPA and UDEQ, presents the DOE's approach for the management of wastes contaminated with hazardous substances other than uranium mill tailings encountered during remediation of the MMTS.

Materials that require special management according to the SWMP may be placed into storage at the IWMA (Figure 2), located on a secured area of the millsite or hauled directly to the repository. The *Interim Waste Management Area Operating Plan and Procedures* which is attached to the SWMP, describes the management of the IWMA in detail and provides documentation of compliance with substantive RCRA storage requirements. It also contains the closure plan for the facility.

IWMA closure activities identified in SWMP were initiated on November 8, 1998. Due to the need to construct a WWTP brine storage pond at the IWMA location, a request was made to the UDEQ and EPA Region VIII to modify the sequence of closure activities identified in the closure plan. UDEQ and EPA Region VIII approved the request. In January 1999, the *Certification of Closure of the Monticello Project Interim Waste Management Area* describing the modified closure activities was submitted to UDEQ and EPA Region VIII. The modified closure activities required sampling for metals and radioactivity after removal of the brine pond. Sampling was conducted in 1999; analytical results verified that soil beneath the former IWMA is not contaminated.

Hazardous waste was not generated, stored, disposed, or shipped from the Monticello millsite or repository in 1999. With the completion of remedial activities at Monticello, future generation of hazardous waste is not expected.

2.1.4 National Environmental Policy Act (NEPA)

As described in Section 2.1.1, DOE intends to transfer the Monticello Millsite and certain peripheral properties to the City of Monticello for public use. In compliance with federal property acquisition regulations, the property must first be transferred to the National Parks Service who may then transfer the property to the City of Monticello through the Federal Land-to-Parks Program. During 1999, an Environmental Checklist (ECL) was prepared for the pending transfer of DOE property to the National Parks Service. The ECL met the criteria for a categorical exclusion. The National Parks Service is responsible for preparing NEPA documentation for the transfer of the property to the City of Monticello.

2.1.5 Uranium Mill Tailings Radiation Control Act

Under certain conditions identified at 40 CFR 192, supplemental standards may be applied that will allow contaminated soil to be left in place. In 1999, DOE requested the EPA to allow application of supplemental standards for certain properties at Monticello. These properties and the institutional controls that will be implemented to provide protection of human health and the environment are described in the following documents:

- *MVP Application for Supplemental Standards—City of Monticello Streets and Utilities*, May 1999
- *MVP Application for Supplemental Standards—Highways 191 and 666 Rights-of-Way*, August 1999
- *Application for Supplemental Standards—Pinion/Juniper Properties*, May 1999
- *MMTS Operable Unit II Application for Supplemental Standards for Upper, Middle, and Lower Montezuma Creek—DOE ID Nos. MP-00951-VL, MP-00990-CS, MP-01084-VL, MG-01026-VL, MG-01027-VL, MG-01029-VL, MG-01030-VL, and MG-01033-VL*, October 1999

The EPA approved all four applications for supplemental standards. Contamination will remain in place at the properties described in the documents listed above.

2.1.6 Clean Air Act/National Emission Standards for Hazardous Air Pollutants

No changes in the compliance status for these statutes have occurred since preparation of the 1998 SER.

2.1.7 Clean Water Act/National Pollutant Discharge Elimination System

In 1993, DOE submitted a UPDES permit application to the UDEQ, Division of Water Quality, for installation of the WWTP. The WWTP was installed in 1995 east of the millsite (Figure 2). The treatment plant treated contaminated water in Retention Pond 3 to reduce radionuclides, heavy metals, and suspended solids prior to discharge into Montezuma Creek. Specific effluent limitations from the discharge water were proposed by the State of Utah in 1993 and clarified in February 1994.

On July 17, 1998, UDEQ revised the effluent limitations for the MMTS WWTP based on maximum discharge rates to Montezuma Creek of 150 and 100 gallons per minute. A wasteload analysis for a minimum stream flow of 0.5 cubic feet per second (cfs) was used for calculating water quality limits. UDEQ stated that if the stream flow is less than 0.5 cfs, the effluent flow or

effluent concentration limitations should be proportionally decreased, but in no case should in-stream standards be exceeded. The DOE has chosen to meet the in-stream standards rather than the proportional effluent flow rates/concentration limitations when the stream flow in Montezuma Creek is less than 0.5 cfs. Compliance with the revised effluent limitations for the WWTP were documented by conducting bi-monthly analysis of the effluent and reporting the individual sample results and monthly averages to UDEQ and EPA. The reports were forwarded to UDEQ and EPA during each month of preparation. None of the WWTP effluent criteria were exceeded during 1999.

During 1999, remediation progressed from the west to the east side of the millsite. After reviewing analytical data from sediment ponds located on the north and south sides of Montezuma Creek, permission was granted by the EPA and UDEQ to discharge water directly to the creek from verified clean areas providing sediment controls were in place. Silt fencing was installed in accordance with the existing storm water pollution prevention plan and water was discharged to Montezuma Creek.

As a result of remediation progress, the WWTP collected surface and runoff water from a diminishing area of land. Because of the decreased demand for water treatment, the continued need for dust suppression water, and planned remediation of the WWTP location, operation of the WWTP ceased on May 12, 1999. The plant and associated structures were dismantled and moved offsite by May 27, 1999.

Surface and ground water from contaminated areas continued to be impounded and used for dust control in contaminated areas or transferred to Pond 4 for future dust control use or evaporation. No water was discharged to Montezuma Creek in 1999 from contaminated areas of the millsite.

Water impounded in the East Pond, a temporary pond created upon remediation of the East Pile, did not meet Utah State Water Quality Standards for gross alpha activity. Although the gross alpha activity level decreased, water from the East Pond continued to exceed the state water quality standard upon verification that agreed upon surface remediation standards were achieved. Therefore, water from the East Pond was not discharged to Montezuma Creek in 1999. Discussions with UDEQ concerning the gross alpha standard were initiated in 1999. In a letter dated April 14, 2000, Mr. David Bird of UDEQ allowed the gross alpha particle contribution from radon and uranium to be excluded from the gross alpha measurement. When this adjustment is made, the state water quality standard for gross alpha is achieved for water impounded in the East Pond.

2.1.8 Safe Drinking Water Act

No changes in the compliance status for this statute have occurred since preparation of the 1998 SER

2.1.9 Toxic Substances Control Act (TSCA)

The production, use, distribution, and disposal of toxic chemicals is regulated by TSCA as found at 40 CFR 700 -789. The only substances regulated by TSCA that have been encountered at the millsite to date are polychlorinated biphenyls (PCBs) and asbestos-containing materials (ACM).

Also during 1997, additional ACM were encountered during the remediation of the carbonate pile located on the millsite. The ACM encountered in this area consisted mostly of non-friable transite piping; however, a significant volume of friable thermal system insulation (TSI) material was found on pieces of the millsite roaster ovens (and other miscellaneous equipment associated with the uranium milling process) which were discovered to have been buried in the carbonate tailings pile. Due to the health hazards associated with handling friable ACM, institutional controls (e.g., encapsulation of debris, equipment, and soils contaminated with ACM; isolation and restriction of localized activity) were implemented to prevent the release of friable materials to the environment and to mitigate potential health hazards. After the ACM contaminated area was secured and prior to remediation of the ACM area, DOE prepared the *Monticello Projects Asbestos Management Plan* (DOE 1997b) in response to the need for the safe and compliant handling, management, and disposal of the ACM. The plan was sent to the UDEQ, Division of Air Quality for concurrence in November 1997. Permit approval was received from the State, and all work was completed in compliance with the Utah Administrative Code, R307-1-8, *Utah Air Conservation Rules* (U.A.C. 1996). Approximately 1,200 cubic yards of ACM contaminated debris and soil that originated from less than 5,000 square feet of asbestos-covered structural components were remediated from the carbonate pile area and disposed of in the on-site repository during the spring and summer of 1998. No PCBs or regulated ACM were stored, shipped, or encountered during remedial activities at the millsite during 1999.

2.1.10 Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Pesticides were not used on the MMTS in 1999; therefore, no changes in the compliance status for this statute have occurred since preparation of the 1998 SER.

2.1.11 Endangered Species Act

No changes in the compliance status for this statute have occurred since preparation of the 1998 SER.

2.1.12 National Historic Preservation Act/Archeological Resources Protection Act

In compliance with the State-approved cultural resources mitigation plan for the Monticello Remedial Action Program (MRAP), an annual inspection of the significant prehistoric sites identified along Montezuma Creek and within the project boundaries was conducted during August 1998. All sites were inspected and found to be undisturbed or in the same condition as they were originally recorded. Also, beginning in the summer of 1998, monthly inspections of the sites were conducted to ensure that nearby OU III construction activities did not impact the sites. Each of the monthly inspections performed during 1998 found the sites to be intact and undisturbed. Monthly inspections continued in January and February of 1999 and the sites were found to be undisturbed or the same condition as they were originally recorded. Due to completion of OU III activities that could potentially affect the recorded archaeological sites, the final inspection was conducted on March 30 and 31, 1999. A report entitled "*Cultural Resource Monitor Report of Twelve Prehistoric Sheltered Camps and One Historic Site in Upper Montezuma Canyon of San Juan County, Utah*" (May 1999), documents that the sites remained undisturbed or in the same condition as they were originally recorded in 1988. Accordingly, a determination of "no effect" is recommended pursuant to Section 106 of the National Historic Preservation Act (36 CFR 800).

2.1.13 Executive Order 11988, "Floodplain Management"

No changes relevant to Floodplain Management for Montezuma Creek occurred in calendar year 1998.

2.1.14 Executive Order 11990, "Protection of Wetlands"

Until 1996, wetland restoration at the MMTS was accomplished on a site-specific basis. In March 1996, the *Monticello Wetlands Master Plan* (Master Plan) (DOE 1995a) was submitted to EPA and the State. The Master Plan provides guidelines for mitigation of all disturbed MMTS wetland areas. Goals of the Master Plan ensure that (1) CERCLA cleanup activities comply with applicable wetland regulations and guidance; (2) adverse effects to wetland areas are avoided where possible; (3) unavoidable adverse effects to wetland areas are minimized; and (4) adverse effects to wetland areas are mitigated. The Master Plan provides delineation results, mitigation measures, and monitoring plans for disturbed wetland areas at the MMTS.

Wetland areas at the MMTS total 11.5 hectares (28.5 acres). Approximately 4 hectares (9 acres) of wetland areas have been affected by remedial activities. Wetland types in Monticello include perennial streams, intermittent streams, emergent wetlands, depression wetlands, and stock ponds. Wetland areas are restored in situ where possible; otherwise they will be recreated at the millsite (except for two small wetland areas adjacent to the haul road that were recreated on adjacent DOE-owned property). Restoration efforts include restoration of size and function of wetland areas, minimization of erosion, prevention of weed encroachment, and use of ecotype plant species. The seed is collected locally when possible.

Recreated wetland areas are monitored for a minimum of 3 years until success criteria are achieved. DOE submits a wetland monitoring report to EPA each year that summarizes the results of wetland monitoring. During 1999, 25 wetland areas were monitored; the annual report was submitted to EPA and the State of Utah in February 2000 (DOE 2000a).

2.1.15 State of Utah Groundwater Quality Protection Regulations

No changes in the compliance status for this statute have occurred since preparation of the 1997 SER. The concentration of uranium-234 + 238 exceeded the Federal standard in the sample collected from downgradient Burro Canyon well 95-06 during 1999. However, the OU III Remedial Investigation (RI) (DOE 1998d) has concluded that the Burro Canyon aquifer is not contaminated. The elevated concentrations observed in this well are attributed to natural fluctuations in groundwater quality. This well was installed in January 1996.

2.1.16 Title 73, "Water and Irrigation", Utah Code Annotated

During calendar year 1999, DOE submitted one *State of Utah Dam Application* (with design drawings) and one *Application for Permanent Change of Water* to the State of Utah, Department of Natural Resources, Division of Water Rights. The applications were required by the State, prior to DOE completing the restoration of a peripheral property adjacent to the millsite. The restoration of the property required that DOE construct a stock watering pond and make a permanent change to the landowner's water right. The applications were submitted in November 1999 and approved by the State in May 2000.

2.2 Environmental Issues and Actions

2.2.1 Suspect Hazardous Substances

The process for managing suspect CERCLA hazardous substances discovered before or during remediation is identified in the SWMP (DOE 1997a). This document addresses the procedures for identifying and characterizing suspect hazardous substances and the processes for remediating and verifying hazardous substances. It also addresses waste management issues. During 1999, no suspect hazardous substances were remediated from the millsite or peripheral properties.

2.2.2 Underground Storage Tanks (UST)

During 1999, no USTs were encountered at the millsite or peripheral properties.

2.2.3 Repository Construction

DOE reconfirmed the decision to construct a repository (Figure 2) on 80 acres of DOE-owned land south of the millsite (i.e., South Site) in December 1994 (see Figure 1). The favorable hydrogeologic setting, as well as the design features of the repository, will ensure that the site is protective of human health and the environment. The repository design was finalized in August 1995, and the construction subcontract was awarded in September 1995. The repository is designed to contain 2.6 million cubic yards of contaminated material. Repository construction was initiated in November 1995 and was completed in May 1997. Placement of tailings into the repository began in June 1997. A total of 1.4 million cubic yards of tailings was placed into the repository during 1998. Including the tailings placed during 1997 (610,000 cubic yards), a total of approximately 2.01 million cubic yards of tailings had been placed into the repository by the end of calendar year 1998. The repository was closed in 1999, bringing the total volume of contaminated material placed in the repository to 2.545 million cubic yards.

Construction of the multi-layer cover that includes a radon barrier and vegetated cover began in 1999 prior to completion of tailings removal. As the repository was filled from west to east, the multi-layer cover was also constructed from west to east. The repository ceased accepting contaminated material in September 1999, and construction of the radon barrier and installation of the high density polyethylene (HDPE) liner over the entire repository was completed in October 1999. Construction of cover layers above the radon barrier continued throughout 1999. The cover was substantially completed on February 23, 2000, with the exception of the vegetative cover, which would have to wait for spring weather conditions.

As part of the Long-Term Surveillance and Maintenance activities, a TSF was constructed during 1999 near the office complex. The TSF was constructed as a contingency measure for safe handling and control of radiologically contaminated material that may be encountered at supplemental standards properties in the Monticello vicinity. Radiologically contaminated material may be temporarily stored in bins or drums until it is transferred to the Grand Junction disposal site (or other DOE-approved facility). Operation and management of the TSF is described in the *Long-Term Surveillance and Maintenance Operating Procedures for Monticello Supplemental Standards Properties* (DOE 2000b). During 1999, no material was placed in the TSF.

2.2.4 Wastewater Treatment Plant

The WWTP (Figure 2) was designed to remove heavy metals and radionuclides from groundwater and surface wastewaters that resulted from remediation of the millsite. During tailings excavation, surface and ground waters were collected and routed to Pond 3 prior to treatment by the WWTP. Wastewaters from various areas of the MMTS were collected and mixed in Pond 3 so that the water influent to the WWTP met the influent water quality requirements of the plant specifications. Larger sediment particles settled to the bottom of Pond 3 and provided primary treatment. This sediment was removed from the pond and placed into the repository when the pond was decommissioned at the end of the project. Pond 4 was used to collect leachate from the repository as well as for overflow storage for Pond 3. Both Pond 3 and Pond 4 were used as feedstock to the WWTP.

Surface-water runoff and groundwater encountered during remedial action was retained in Pond 3 and treated to ensure that there were no releases to the environment that exceeded the UPDES effluent limitations. These effluent limitations were based on a wasteload analysis for a minimum stream flow of 0.5 cfs and are discussed in section 2.1.7.

To meet the discharge effluent criteria, treatment processes were employed to treat the contaminated solids in the wastewater solution. The treatment system included chemical precipitation, sedimentation, and membrane filtration. Because this system was incapable of reducing selenium concentrations to acceptable levels, a reverse osmosis (RO) treatment unit was installed in 1998 to remove selenium. When the wastewater was treated by reverse osmosis, the contaminants were concentrated in a brine solution. The resulting brine was only used as dust control in contaminated areas of the millsite and repository. Sampling and analysis was conducted in 1999 to ensure that the brine solution was not concentrated to the extent that it would be regulated as a characteristic hazardous waste.

The WWTP was operated using membrane filtration and RO until May 12, 1999 at which time it was shut down for decommissioning. WWTP compliance samples and influent water quality samples were collected and analyzed on a routine basis during this time period. To verify that the discharge criteria established by the UDEQ were met, effluent water samples were obtained and analyzed at a minimum frequency of twice per month. Analytical results were forwarded to UDEQ monthly. Whole Effluent Toxicity Test samples were also obtained on a quarterly basis in accordance with UPDES requirements. None of the UPDES effluent limitations for WWTP discharges were exceeded during 1999.

The WWTP and associated structures were dismantled and removed from the site by May 27, 1999. Waste minimization efforts included shipping the WWTP equipment to other DOE sites for future use and returning unused WWTP chemicals to vendors. Pond 3 was removed by July 30, 1999. The liner, sediment, and berm material from Pond 3 were disposed as radioactive waste in the repository.

3.0 Environmental Monitoring Summary

Historical environmental monitoring information, sampling techniques, and regulatory guidance pertaining to environmental monitoring are presented in the 1994 and 1995 SER. Environmental monitoring data collected during 1999 are presented in this section.

3.1 Atmospheric Radon

Radon concentration was measured at 39 locations during 1999 (Figure 3) with Landauer Radtrak alpha-sensitive detectors. As in previous years, the detectors were exposed 1 meter (3.28 feet) above the ground surface and were analyzed quarterly (3-month exposure). Stations Rn-M-40 and 44 were removed because of remediation activities in these areas.

The site-specific standard of 0.9 picocuries per liter (pCi/L) was calculated by adding the EPA standard (40 CFR 192) of 0.5 pCi/L (annual average) to the natural background concentration of 0.4 pCi/L. As shown in Table 2, the atmospheric radon concentrations measured during 1999 exceeded the EPA standard at one location along the DOE property boundary. The standard exceedance at station Rn-M-24 is the result of the fourth quarter value which was 3.9 pCi/L, whereas the remaining three-quarters data averaged 0.5 pCi/L. Concentrations at the off-site locations were below the standard. Quarterly data collected at each location are listed in Appendix A, Tables A-1 through A-4.

3.2 Air Particulates

The 1999 air sampling network consisted of (1) 8 high-volume air samplers that sample ambient air at approximately 1.13 cubic meters per minute (m^3/min) for 24 hours every sixth day for particulate matter less than or equal to 10 micrometers in diameter (PM_{10}); and (2) 9 low-volume (flow rate of $0.06 \text{ m}^3/\text{min}$) air samplers adjacent to the MMTS and the City of Monticello that sample radioparticulates (radium-226, thorium-230, polonium-210, and total uranium). Figure 4 depicts the locations of the air particulate samplers at and near the MMTS that provide on-site, off-site, and background data for air particulates.

Table 3 compares measured PM_{10} concentrations to the EPA standard. Acceptable levels of PM_{10} are defined in the National Ambient Air Quality Standards (40 CFR 50). During 1999, the concentrations of PM_{10} measured at all sampling locations were well below EPA standards.

The annual average concentration of PM_{10} measured at the 6 samplers surrounding the MMTS was $15 \mu\text{g}/\text{m}^3$, and the average 24-hour maximum concentration measured at these samplers was $51 \mu\text{g}/\text{m}^3$. Background concentrations measured at location AIR-M-9 were $8 \mu\text{g}/\text{m}^3$ (annual average) and $34 \mu\text{g}/\text{m}^3$ (maximum concentration). The higher PM_{10} concentrations near the MMTS were probably caused by fugitive dust from remedial activities on the millsite, construction of the repository, vehicular traffic on unpaved roads, and dirt from streets in and around Monticello. Results of PM_{10} analyses for individual stations are listed in Appendix A, Tables A-5 through A-12.

Table 4 compares 1999 maximum and average radioparticulate concentrations with DOE derived concentration guidelines (DCG). The DCG represents the concentration that would cause a

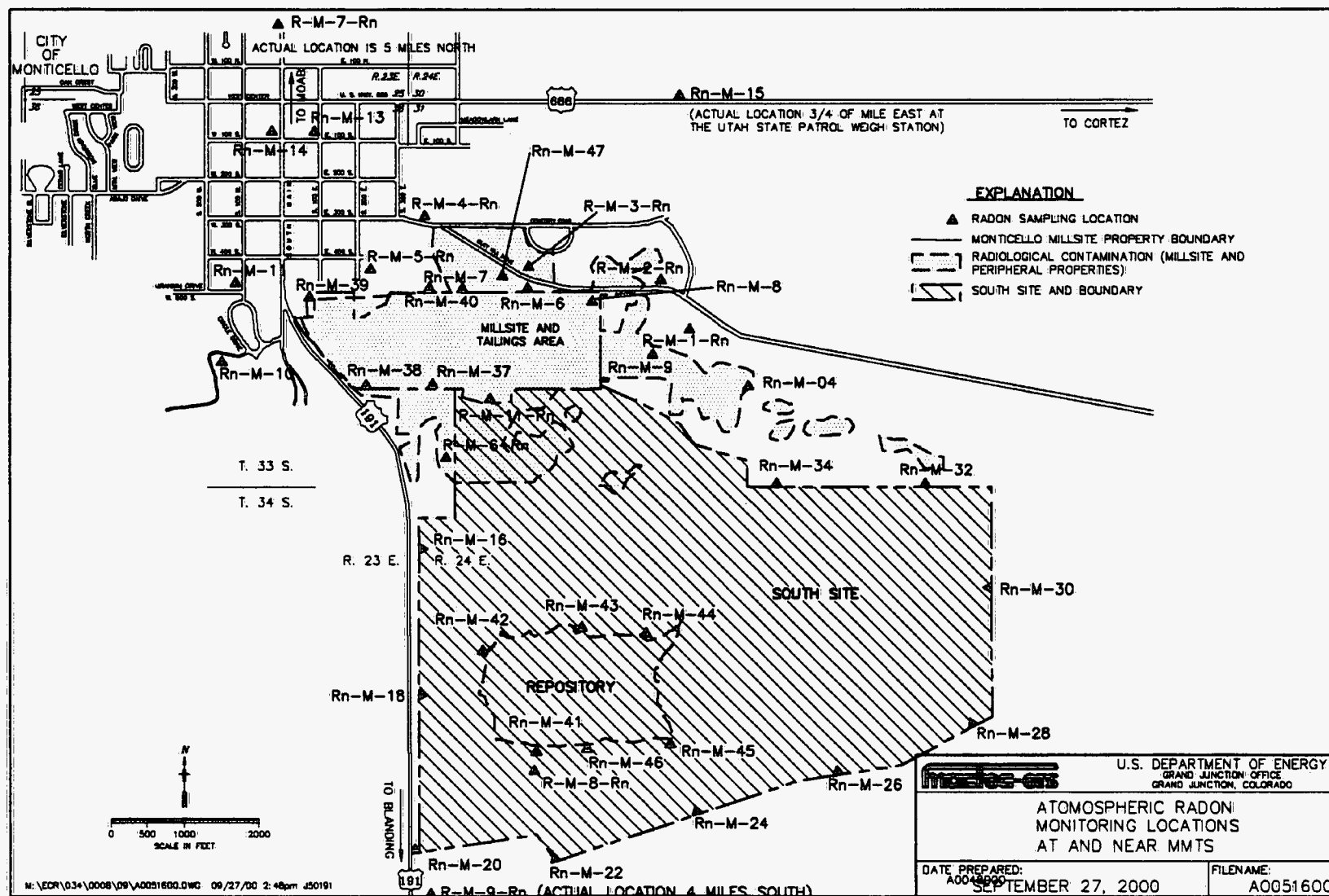


Figure 3. Atmospheric Radon Monitoring Locations At and Near MMTS

Table 2. Comparison of Average Annual Radon Concentrations At and Near MMTS with EPA Standard During 1999

Sampling Location	Radon Concentration	
	Annual Average (pCi/L) ^a	EPA Standard (Including background) (pCi/L)
On-Site		
R-M-8-RN	0.5	0.9
RN-M-06	0.6	0.9
RN-M-07	0.6	0.9
RN-M-08	0.5	0.9
RN-M-09	0.4	0.9
RN-M-16	0.8	0.9
RN-M-18	0.5	0.9
RN-M-20	0.7	0.9
RN-M-22	0.8	0.9
RN-M-24	1.4	0.9
RN-M-26	0.7	0.9
RN-M-28	0.8	0.9
RN-M-30	0.8	0.9
RN-M-32	0.5	0.9
RN-M-34	0.5	0.9
RN-M-37	0.7	0.9
RN-M-38	0.5	0.9
RN-M-39	0.6	0.9
RN-M-41	0.7	0.9
RN-M-42	0.6	0.9
RN-M-43	0.7	0.9
RN-M-45	0.6	0.9
RN-M-46	0.8	0.9

^a 1 pCi/L = 3.7×10^{-2} becquerels per liter.

Table 2 (continued). Comparison of Average Annual Radon Concentrations At and Near MMTS with EPA Standard During 1999

Sampling Location	Radon Concentration	
	Annual Average (pCi/L) ^a	EPA Standard (Including background) (pCi/L)
Off-Site		
R-M-1-RN	0.5	0.9
R-M-2-RN	0.3	0.9
R-M-3-RN	0.5	0.9
R-M-4-RN	0.4	0.9
R-M-5-RN	0.4	0.9
R-M-6-RN	0.5	0.9
R-M-7-RN	0.4	0.9
R-M-9-RN	0.5	0.9
RN-M-04	0.7	0.9
RN-M-10	0.4	0.9
RN-M-11	0.4	0.9
RN-M-14	0.4	0.9
RN-M-15	0.5	0.9
RN-M-47	0.6	0.9
RN-M-48	0.6	0.9

^a 1 pCi/L = 3.7×10^{-2} becquerels per liter.

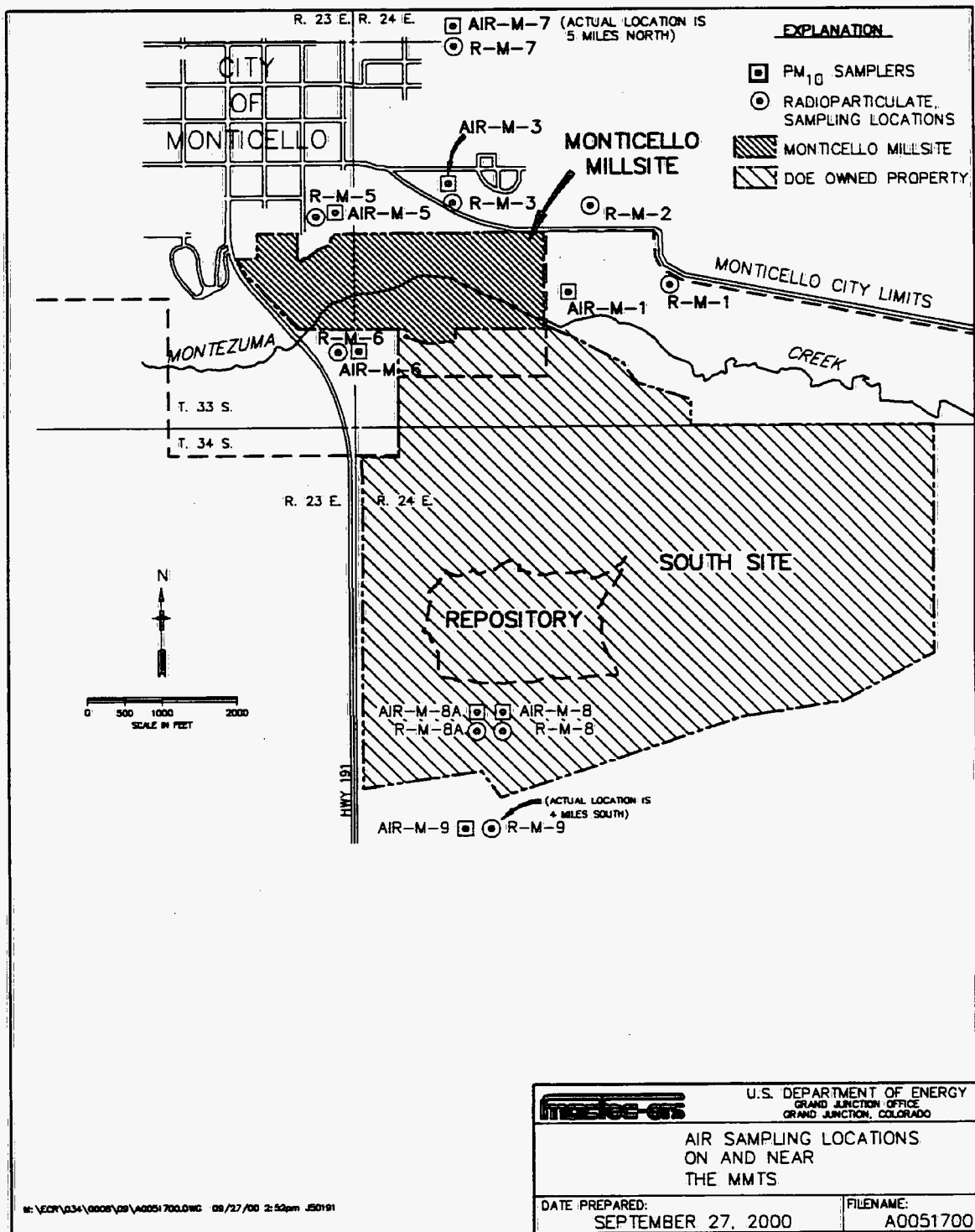


Figure 4. Air Sampling Locations On and Near the MMTS

Table 3. Results of MMTS P₁₀ Monitoring Conducted During 1999

Station		Measured PM ₁₀ ($\mu\text{g}/\text{m}^3$)	EPA Standards ($\mu\text{g}/\text{m}^3$)
AIR-M-1	Maximum	43	150
	Average	16	50
	Count	47	
AIR-M-3	Maximum	50	150
	Average	18	50
	Count	47	
AIR-M-5	Maximum	32	150
	Average	13	50
	Count	30	
AIR-M-6	Maximum	34	150
	Average	11	50
	Count	35	
AIR-M-7	Maximum	25	150
	Average	8	50
	Count	49	
AIR-M-8	Maximum	69	150
	Average	16	50
	Count	49	
AIR-M-8A	Maximum	80	150
	Average	15	50
	Count	50	
AIR-M-9	Maximum	34	150
	Average	8	50
	Count	47	

* The numbers given in this table are defined as follows:
 Maximum - Maximum concentration observed in sample period.
 Average - Annual average concentration.
 Count - Number of samples collected.

Table 4. Results of the MMTS Radioparticulate Monitoring Conducted During 1999^a

		Radiological Elements					
		Radium-226 ($\mu\text{Ci/mL}$) ^b	Polonium-210 ($\mu\text{Ci/mL}$) ^b	Thorium-230 ($\mu\text{Ci/mL}$) ^b	Thorium-230 (pg/mL) ^c	Uranium (pg/mL)	Uranium ($\mu\text{Ci/mL}$) ^{b,d}
DCG		1.0E-12	1.0E-12	4.0E-14	No Standard	No Standard	2.0E-12
Station							
R-M-1-AIR	Maximum	9.0E-16	7.4E-15	3.1E-16	1.6E-08	6.0E-04	4.1E-16
	Average	5.2E-16	4.6E-15	1.8E-16	9.3E-09	3.7E-04	2.5E-16
	Count	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)
R-M-2-AIR	Maximum	9.4E-16	6.1E-15	2.4E-16	1.2E-08	6.4E-04	4.4E-16
	Average	5.5E-16	3.8E-15	1.9E-16	9.8E-09	4.3E-04	3.0E-16
	Count	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)
R-M-3-AIR	Maximum	8.4E-16	6.3E-15	2.9E-16	1.5E-08	5.4E-04	3.7E-16
	Average	5.5E-16	4.3E-15	2.0E-16	1.0E-08	4.2E-04	2.9E-16
	Count	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)
R-M-5-AIR	Maximum	7.6E-16	5.9E-15	1.9E-16	9.8E-09	4.6E-04	3.2E-16
	Average	5.1E-16	3.4E-15	1.5E-16	7.7E-09	3.4E-04	2.3E-16
	Count	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)
R-M-6-AIR	Maximum	8.4E-16	5.3E-15	1.8E-16	9.3E-09	4.6E-04	3.2E-16
	Average	5.0E-16	3.3E-15	1.3E-16	6.7E-09	3.0E-04	2.1E-16
	Count	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)
R-M-7-AIR	Maximum	1.2E-15	6.1E-15	1.8E-16	9.3E-09	~3.7E-04	~2.5E-16
	Average	5.6E-16	4.0E-15	1.3E-16	6.7E-09	2.8E-04	1.9E-16
	Count	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)
R-M-8-AIR	Maximum	9.0E-16	6.0E-15	2.0E-16	1.0E-08	4.2E-04	2.9E-16
	Average	6.4E-16	4.0E-15	1.4E-16	7.2E-09	3.6E-04	2.5E-16
	Count	8 (7)	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)
R-M-8A-AIR	Maximum	8.7E-16	6.0E-15	2.4E-16	1.2E-08	~3.9E-04	~2.7E-16
	Average	5.6E-16	3.7E-15	1.7E-16	8.8E-09	3.5E-04	2.4E-16
	Count	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)
R-M-9-AIR	Maximum	6.6E-16	6.2E-15	1.8E-16	9.3E-09	~3.7E-04	~2.5E-16
	Average	4.6E-16	3.7E-15	1.4E-16	7.2E-09	2.9E-04	2.0E-16
	Count	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)	8 (8)

^a A "~" indicates an approximate value (the value was outside the limits for which the instrument was calibrated). Scientific notation E-15 = " $\times 10^{-15}$."

^b 1 microcurie per milliliter ($\mu\text{Ci/mL}$) = 3.7×10^4 becquerels per milliliter.

^c pg/mL = picograms per milliliter. The conversion of thorium-230 concentrations between microcuries and picograms assumes equilibrium and an activity of 0.0194 $\mu\text{Ci}/\mu\text{g}$.

^d The conversion of uranium concentrations between microcuries and picograms assumes equilibrium and an activity of 0.687 pCi/ μg .

The numbers given in this table are defined as follows:

Maximum - Maximum concentration observed in sample period.

Average - Annual average concentration. Samples above detection limit are used in calculation.

Count - Number of samples collected. The number in parentheses indicates the number of samples having concentrations above the detection limit.

member of the public, residing at the point of collection, to receive a dose of 100 mrem/yr from a specified radionuclide. Exposures above this limit are considered unacceptable. All measured concentrations of radium-226, thorium-230, polonium-210, and total uranium were two to four orders of magnitude below the respective DCG. Results of individual analyses are listed in Appendix A, Table A-13.

3.3 Direct Gamma Radiation Monitoring

Environmental radiation monitoring is conducted to assess the potential gamma radiation dose to persons on and near the millsite. Gamma radiation measurements are included, along with radiation measurements associated with radon and air particulates, in the calculation of total off-site dose to the public to determine compliance with the DOE/EPA standard of 100 mrem/yr above background (see Section 3.4, Off-Site Dose Modeling).

During 1999, 35 monitoring locations (Figure 5) on the DOE property line and surrounding areas were monitored quarterly by using $\text{CaSO}_4\text{:Dy}$ (calcium sulfate: dysprosium) thermoluminescent dosimeters (TLD). Because of construction activities, location TLD-M-40 was removed after the fourth quarter of 1998 and location TLD-M-44 was removed after the first quarter of 1999. Generally speaking, overall gamma radiation levels are lower than previous years' levels. These lower levels are the result of contaminated properties being remediated. Results of the monitoring are presented in Appendix A, Tables A-14 through A-17 and are summarized in Table 5. The background level of gamma radiation of 112 mrem/yr was measured at station R-M-9-TLD.

3.4 Off-Site Dose Modeling

Monitoring data collected during 1999 were used to calculate the effective dose equivalent (EDE) to the maximally exposed off-site individual near the MMTS. Calculation of the EDE of the maximally exposed off-site individual living approximately 300 meters east of the site boundary involved summing the radon, air particulate, and gamma source terms at this location. The dose caused by these sources was 19 mrem/yr (0.19 millisievert per year) from gamma radiation and 3 mrem/yr (0.03 millisievert per year) from radon. The dose resulting from radioparticulate emissions was indistinguishable from background concentrations.

As required by DOE Order 5400.5, the collective population dose was calculated. The dose assessment model CAP88PC predicted that the collective dose to persons residing within an 80-kilometer (50-mile) radius of the MMTS was 48.37 person-rem per year (0.48 person-sievert per year). Because a reliable source term for radionuclides could not be derived, it was not included in the population dose estimate. However, on the basis of ambient air radionuclide concentrations measured at the site (see Table 4 in this report), the population dose from DOE-caused radionuclide emissions was expected to be minimal. The source term for radon flux is an average flux rate of 680 pCi/m²/sec, which was predicted by the radon model. This flux rate was converted to a radon source-strength of 2481 curies.

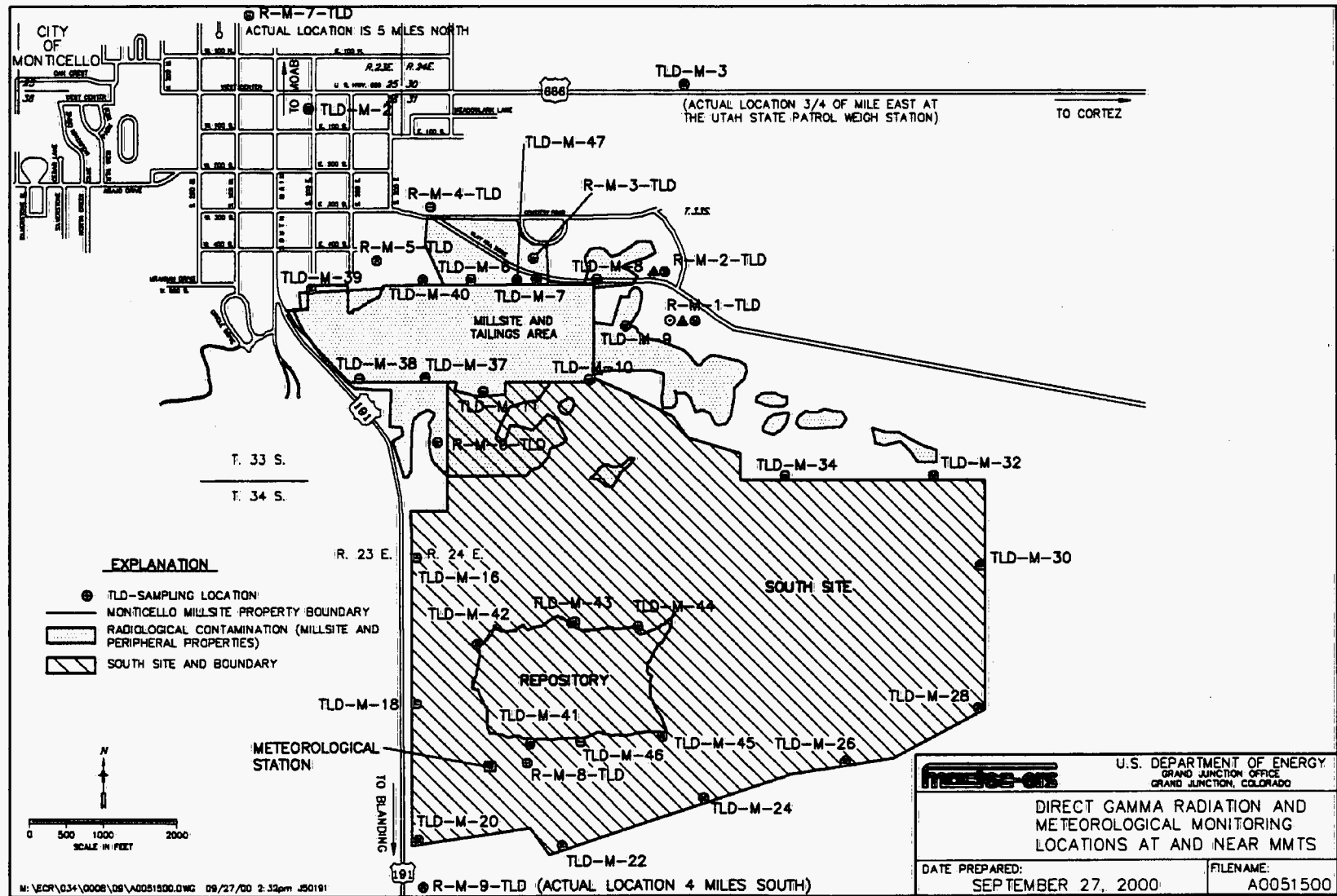


Figure 5. Direct Gamma Radiation and Meteorological Monitoring Locations At and Near MMTS

Table 5. Average Annual Gamma Exposure Rates At and Near the MMTS During 1999

Sampling Location	Gamma Exposure	
	Annual Average (mrem/yr) ^a	DOE Standard (mrem/yr) ^b
On-Site		
R-M-8-TLD	119	212
TLD-M-06	118	212
TLD-M-07	130	212
TLD-M-08	113	212
TLD-M-09	121	212
TLD-M-16	122	212
TLD-M-18	129	212
TLD-M-20	118	212
TLD-M-22	125	212
TLD-M-24	119	212
TLD-M-26	122	212
TLD-M-28	121	212
TLD-M-30	120	212
TLD-M-32	115	212
TLD-M-34	123	212
TLD-M-37	122	212
TLD-M-38	128	212
TLD-M-39	118	212
TLD-M-41	125	212
TLD-M-42	122	212
TLD-M-43	111	212
TLD-M-44	123	212
TLD-M-45	113	212
TLD-M-46	127	212

^a 1 mrem/yr = .01 millisieverts per year.

^b Standard includes background of 112 mrem/yr.

*Table 5 (continued). Average Annual Gamma Exposure Rates At and Near the MMTS
During 1999*

Sampling Location	Gamma Exposure	
	Annual Average (mrem/yr) ^a	DOE Standard (mrem/yr) ^b
Off-Site		
R-M-1-TLD	120	212
R-M-2-TLD	118	212
R-M-3-TLD	118	212
R-M-4-TLD	126	212
R-M-5-TLD	111	212
R-M-6-TLD	108	212
R-M-7-TLD	106	212
R-M-9-TLD	112	212
TLD-M-03	112	212
TLD-M-47	125	212
TLD-M-48	131	212

^a 1 mrem/yr = .01 millisieverts per year.

^b Standard includes background of 112 mrem/yr.

The population file used in the dose modeling was compiled from 1990 U.S. Bureau of Census data; the meteorological data file was derived from meteorological data collected at the MMTS during 1999.

3.5 Meteorology

Meteorological monitoring was conducted during 1999 at a location approximately 200 meters southwest from the repository (Figure 5). Parameters measured or calculated included wind speed, wind direction, standard deviation of wind direction, temperature, barometric pressure, precipitation, solar radiation, and relative humidity. Table 6 summarizes 1999 weather data for temperature, wind speed, and precipitation.

Table 6. 1999 Weather Data Summary for the MMTS

Month	Temperature C° (F°) ^a				Wind Speed KPH (MPH) ^b		Precipitation Totals cm (in) ^c
	Ave. High	Ave. Low	Max. Temp.	Min. Temp.	Average	Peak Gust	
January	5.7 (42.3)	-5.3 (22.4)	11.2 (52.2)	-10.5 (13.1)	18.5 (11.5)	72.4 (45.0)	1.09 (0.43)
February	7.7 (45.8)	-5.2 (22.7)	15.2 (59.4)	-13.2 (8.3)	17.5 (10.9)	75.1 (46.7)	1.40 (0.55)
March	13.7 (56.7)	-1.3 (29.6)	18.3 (65.0)	-5.9 (21.3)	19.3 (12.0)	85.1 (52.9)	0.89 (0.35)
April	11.2 (52.1)	-2.1 (28.2)	21.8 (71.3)	-11.1 (12.0)	17.7 (11.0)	88.0 (54.7)	7.09 (2.79)
May	18.7 (65.7)	3.6 (38.4)	25.4 (77.7)	-2.9 (26.8)	17.7 (11.0)	77.7 (48.3)	1.30 (0.51)
June	25.2 (77.4)	9.2 (48.5)	31.7 (89.0)	-1.3 (29.7)	16.6 (10.3)	94.6 (58.8)	3.00 (1.18)
July	28.5 (83.3)	13.7 (56.7)	34.4 (94.0)	11.0 (51.9)	14.3 (8.9)	72.4 (45.0)	5.31 (2.09)
August	25.4 (77.8)	12.2 (53.9)	29.0 (84.2)	8.9 (48.1)	12.6 (7.8)	51.6 (32.1)	13.0 (5.12)
September	21.6 (70.9)	7.7 (45.9)	27.5 (81.5)	-1.0 (30.1)	13.2 (8.2)	68.5 (42.6)	5.59 (2.2)
October	19.2 (66.6)	3.7 (38.7)	24.4 (76.0)	-3.4 (25.8)	15.3 (9.5)	72.4 (45.0)	0.2 (0.08)
November	13.4 (56.1)	-0.6 (31.0)	19.9 (67.9)	-10.3 (13.4)	13.8 (8.6)	52.4 (32.6)	0.2 (0.08)
December	4.2 (39.5)	-7.2 (19.0)	11.7 (53.1)	-15.3 (4.5)	16.7 (10.4)	72.9 (45.3)	0.79 (0.31)

^a C° = degrees Centigrade; F° = degrees Fahrenheit.

^b KPH = kilometers per hour; MPH = miles per hour.

^c cm = centimeters; in = inches

3.6 Surface Water

Montezuma Creek is the primary surface water body in the MMTS area, flowing west to east through the millsite. Typical flow rates are on the order of one to two cubic feet per second. Flow is generally perennial; however, portions of the creek are seasonally dry some years. Montezuma Creek water is diverted about 1 mile upstream of the millsite for irrigation. Downstream of the millsite, creek water is used for crop irrigation and livestock watering. Through May of 1999, water was discharged into Montezuma Creek from the onsite water treatment facility, which treated contaminated groundwater encountered in excavations associated with remedial action on the millsite. Other surface water bodies in the MMTS area include several artificial ponds and groundwater seeps.

The RI study commenced in 1992, and field work concluded at the end of 1996. The final RI report titled *Monticello Mill Tailings Site OU III Remedial Investigation* (DOE 1998) was issued in 1998. In response to the completion of the RI fieldwork, the surface-water-monitoring program at the MMTS was revised in 1997 to reflect a post RI annual monitoring phase that continued through 1998. The program was revised in 1999 to incorporate input from the DOE, EPA, and UDEQ. A new sampling plan entitled *Monticello Mill Tailings Site, Operable Unit III, Interim Remedial Action Annual Monitoring Program* (DOE 1999b) was created to implement the new sampling strategy. The plan specified quarterly sampling in January, April, July, and October. The October sampling event was designed as an extensive sampling event because flows are typically the lowest and analyte concentrations the highest. In May 1999, the plan was expanded to include the monitoring requirements for the PeRT wall treatability study. The new version of the plan was called *Interim Remedial Action, Surface and Ground Water Monitoring Plan* (DOE 1999c).

The objectives of the surface water monitoring program were (1) to monitor for major changes in water quality entering the site, (2) to detect changes in water quality of Montezuma Creek in response to millsite remediation, and (3) to verify compliance with State surface-water quality standards. In accordance with the above-stated objectives, surface water samples were collected from the locations listed in Table 7 and shown in Figures 6 and 7. Sampling locations included selected sites along an established network on Montezuma Creek upstream of the millsite, on the millsite, and downstream of the millsite.

Surface water samples collected during 1999 were submitted for laboratory analysis for the constituents listed in Table 7. Alkalinity, pH, electrical conductivity, and temperature were measured in the field at the time of sample collection. The analytical results are displayed in Table A-18 of Appendix A. All surface water samples were collected and analyzed according to standardized, approved methods described in the planning documents cited above. State of Utah water quality standards are compared to 1999 and historic sample results in Table 8.

Analyte concentrations measured in the sample collected from Montezuma Creek upstream of the millsite (SW92-03) were below State standards. Water quality entering the site is consistent with historical water quality as illustrated in the time-versus-concentration graphs shown in Figures 8 and 9. Note: time-versus-concentration graphs display October data only in order to compare data collected during base flow conditions of Montezuma Creek and eliminate seasonal variation due to increased creek flow.

Table 7. 1999 Surface-Water Sampling and Analytical Design Schedule

DATE	LOCATION	DESCRIPTION	SITES SAMPLED	ANALYTES MEASURED
January 1999	Millsite	Montezuma Creek	SW99-01	As, Ca, Cl, Co, Cu, F, Gross α , Gross β , K, Mg, Mn, Mo, (NO ₂ + NO ₃)-N, Na, Pb, Pb-210, Ra-226, Rn-222, Se, SO ₄ , TDS, Th-230, U, V, Zn
		Seep	SW99-02	
		Pond	SW99-03	
	Downgradient	Montezuma Creek	W-4, SW92-06, Sorenson	
April 1999	Onsite	Montezuma Creek	SW99-01	As, Ca, Cl, Co, Cu, F, Fe, Gross α , Gross β , HCO ₃ , K, Mg, Mn, Mo, (NO ₂ + NO ₃)-N, Na, Pb, Pb-210, Ra-226, Rn-222, Se, SO ₄ , TDS, Th-230, U, V, Zn
		Seep	SW99-02	
		Pond	SW99-03	
	Downgradient	Montezuma Creek	W-4, SW92-06, Sorenson, SW92-07, SW99-04, SW92-08, SW92-09, SW94-01	
July 1999	Onsite	Montezuma Creek	SW99-01	As, Br, Ca, Cl, Co, Cu, F, Fe, Gross α , Gross β , K, Mg, Mn, Mo, (NO ₂ + NO ₃)-N, Na, Pb, Pb-210, Ra-226, Rn-222, Se, SO ₄ , TDS, Th-230, U, V, Zn
		Seep	SW99-02A	
		Pond	SW99-03	
	Downgradient	Montezuma Creek	SW92-06, Sorenson, SW99-04	
October 1999	Upgradient	Montezuma Creek	SW92-03	As, Ca, Cl, Co, Cu, F, Fe, Gross α , Gross β , K, Mg, Mn, Mo, (NO ₂ + NO ₃)-N, Na, Pb, Pb-210, Ra-226, Rn-222, Se, SO ₄ , TDS, Th-230, U, V, Zn
	Millsite	Montezuma Creek	SW99-01	
		Seep	SW99-02	
	Downgradient	Montezuma Creek	SW92-06, Sorenson, SW92-07, SW99-04, SW92-08, SW92-09, SW94-01	

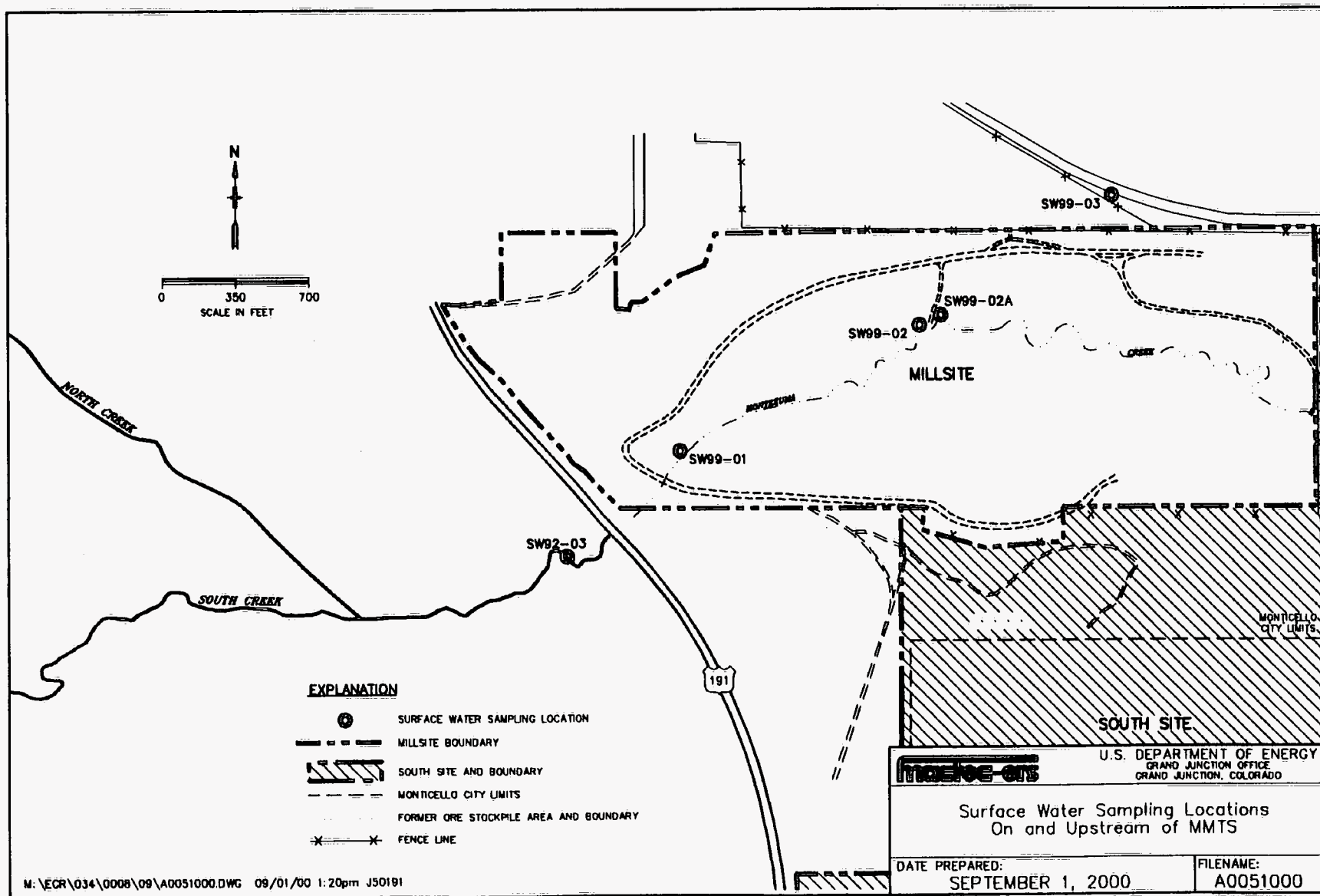


Figure 6. Surface Water Sampling Locations On and Upstream of MMTS

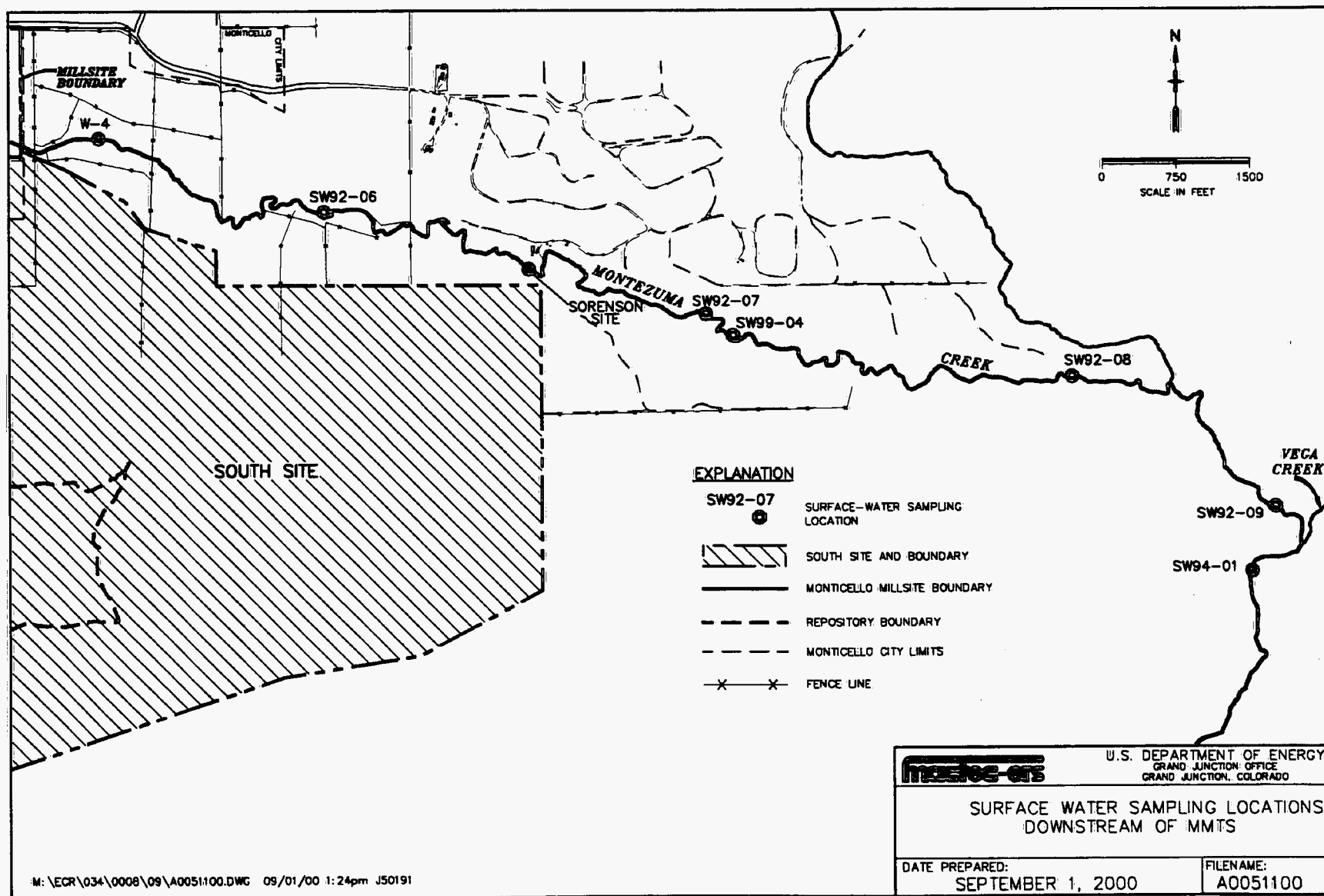


Figure 7. Surface Water Sampling Locations Downstream of MMTS

Table 8. Comparison of State of Utah Water Quality Standards^a with 1999 and Historical Maximum Concentrations in Montezuma Creek^b

Constituent	State Standard		1999 Maximum ^c			Historical Maximum ^{c,d}		
			Up-Gradient	On-Site	Down-Gradient	Up-Gradient	On-Site	Down-Gradient
Anion								
Fluoride ^e	1.4-2.4	mg/L	0.207	0.354	0.319	0.289	~0.274	0.334
Nitrate as Nitrogen ^f	10	mg/L	<0.012	~0.0951	~0.853	5.67	2.98	10
General								
Total Dissolved Solids	1200	mg/L	870	1110	1630	1842	1860	1700
PH	6.5-9.0	s.u.	---	7.88-8.42	7.23-8.68	7.2-9.16	6.6-8.67	6.74-9.6
Metal								
Arsenic	0.05	mg/L	<0.0004	<0.0011	~0.002	~0.0039	~0.0339	0.027
Barium	1.0	mg/L	---	---	---	0.121	0.1	~0.132
Boron	0.75	mg/L	---	---	---	0.14	~0.0926	0.257
Cadmium	0.01	mg/L	---	---	---	<0.001	<0.001	<0.001
Chromium	0.05	mg/L	---	---	---	~0.0049	<0.006	0.0263
Copper	0.2	mg/L	0.00087	~0.0014	0.0024	~0.0101	~0.017	0.0515
Iron	1.0	mg/L	<0.009	0.277	0.695	2.85	1.34	4.45
Lead	0.05	mg/L	<0.0003	<0.0011	~0.0012	0.0245	0.0051	0.15
Mercury	0.002	mg/L	---	---	---	<0.0001	~0.0002	<0.0001
Selenium	0.01	mg/L	0.0001	~0.00087	~0.0033	0.0097	~0.012	0.042
Silver	0.05	mg/L	---	---	---	<0.007	~0.0209	~0.001
Radiological								
Gross Alpha	15	pCi/L	2.38	<9.83	~71.63	76	162	517
Gross Beta	50	pCi/L	<8.96	<13.47	40	26.5	48	187
Radium-226+228	5	pCi/L	<0.61	1.09	2.74	3.3	0.96	1.79

^a State of Utah Water Quality Standards for the Montezuma Creek segment, Utah Administrative Code Rule R317-2.
Not all state standards are listed in this table.

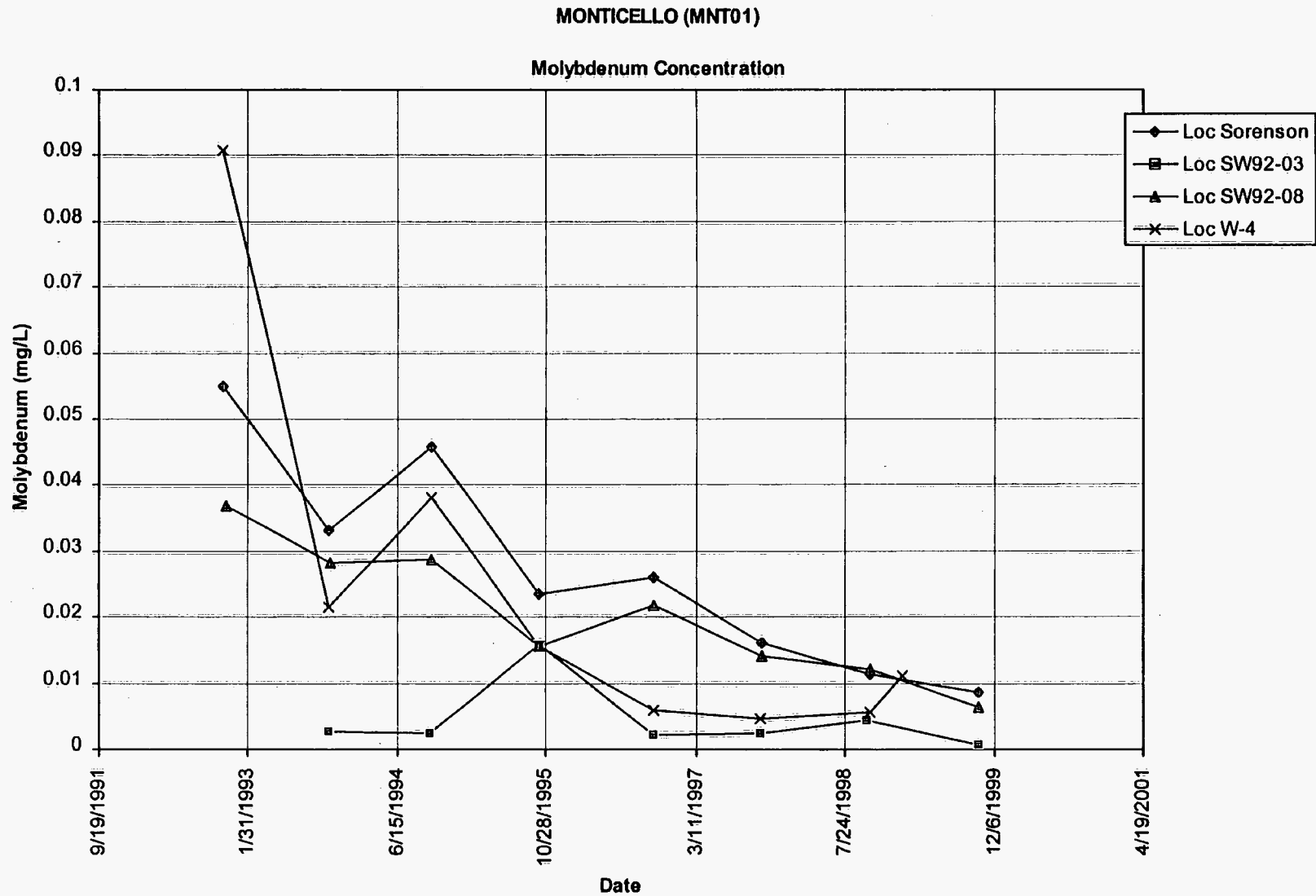
^b A "—" indicates no data available; a "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit); a "~" indicates an estimated value.

^c The values are in units shown under the State Standard column.

^d Based on maximum concentrations observed from 1984 through 1998.

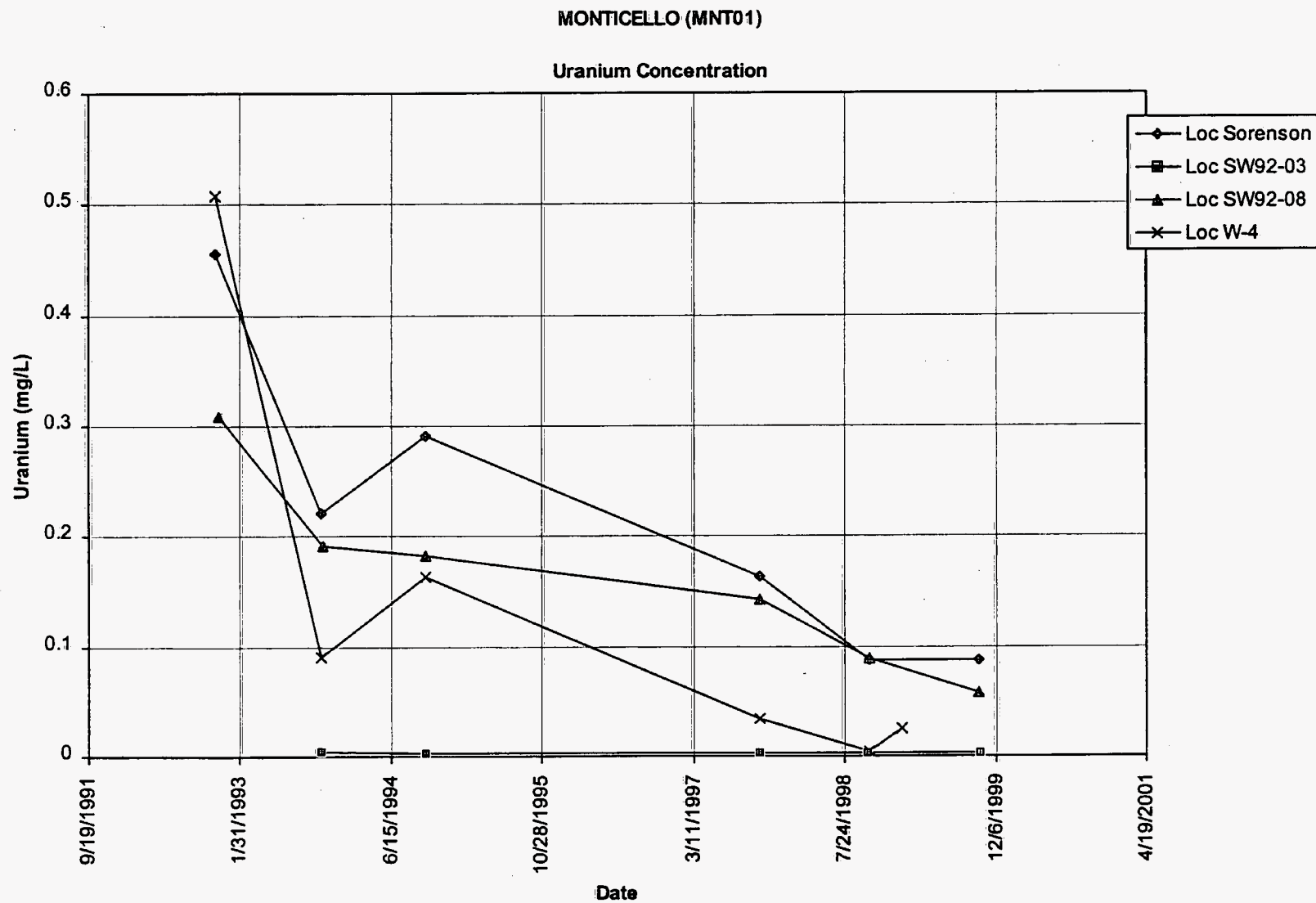
^e Allowable Maximum concentration varies according to the daily maximum mean air temperature.

^f Nitrate (as N) was derived using the following conversion, Nitrate (as N) = NO₃ + 4.427.



9/12/2000 1:28 pm

Figure 8. Molybdenum Concentration at Selected Locations on Montezuma Creek



9/12/2000 1:29 pm

Figure 9. Uranium Concentrations at Selected Locations on Montezuma Creek

Water quality in Montezuma Creek on the millsite at location SW99-01 was comparable to background water quality measured at location SW92-03; analyte concentrations measured in the samples collected from SW99-01 were below State standards.

Downstream of the millsite, the gross alpha and TDS standards were exceeded at all Montezuma Creek locations. Analyte concentrations in samples collected downstream of the millsite are typically lower than historical concentrations, which indicates continued improvement in Montezuma Creek water quality. Time-versus-concentration graphs for selected analytes from downstream sampling locations illustrate the improvement in water quality over time (Figures 8 and 9). Continuing improvement of water quality in Montezuma Creek is attributed to remedial activities at the millsite and downstream along Montezuma Creek.

A summary and analysis of surface water data collected in 1999 is summarized in *Surface and Ground Water Data Summary Report, October 1998 – July 1999* (DOE 1999d), and in *Interim Remedial Action Progress Report* (in progress). A complete description of the surface water, including detailed analysis of the nature and extent of surface water contamination, surface water flow, and groundwater and surface water interaction, is described in the *Monticello Mill Tailings Site OU III Remedial Investigation* (DOE 1998) report.

3.7 Groundwater

The remedial investigation (RI) study commenced in 1992, and field work concluded at the end of 1996. The final RI report titled *Monticello Mill Tailings Site OU III Remedial Investigation* (DOE 1998) was issued in 1998. In response to the completion of the RI fieldwork, the ground water monitoring program at the MMTS was revised in 1997 to reflect a post RI annual monitoring phase that continued through 1998. The program was revised in 1999 to incorporate input from the DOE, EPA, and UDEQ. A new sampling plan entitled *Monticello Mill Tailings Site, Operable Unit III, Interim Remedial Action Annual Monitoring Program* (DOE 1999b) was created to implement the new sampling strategy. The plan specified quarterly sampling in January, April, July, and October. The October sampling event designed as an extensive sampling event because flows are typically the lowest and analyte concentrations the highest. In May 1999, the plan was expanded to include the monitoring requirements for the PeRT wall treatability study. The new version of the plan was called *Interim Remedial Action, Surface and Ground Water Monitoring Plan* (DOE 1999c).

The objectives of the revised monitoring program were (1) to monitor the contaminant plume within the alluvial aquifer; (2) to determine if water quality within the Burro Canyon aquifer is being degraded by contaminated alluvial groundwater; (3) to verify compliance with Federal and State groundwater quality standards; and (4) to determine the effectiveness of the PeRT wall in treating contaminated alluvial ground water.

Routine quarterly groundwater sampling in 1999 was conducted in January, April, July, and October according to the schedule presented in Table 9, which lists the wells that were sampled and analytes measured for each sampling event. In addition, a limited sampling event was conducted in February, and the PeRT wall wells were sampled in September, October and November (Table 9). Sampling was conducted using standardized, approved methods specified in the planning documents cited above. Field measurements made included alkalinity, dissolved oxygen, electrical conductivity, oxidation-reduction potential, pH, temperature, and turbidity. Figure 10 shows the sampling locations of on-site and upgradient wells, Figure 11 shows the

Table 9. 1999 Ground Water Sampling and Analytical Design Schedule

DATE	LOCATION	FORMATION	WELLS SAMPLED	ANALYTES MEASURED
January 1999	Downgradient	Alluvial	82-07, 88-85, 92-07, 92-08, 92-11, P92-04, P92-05, P92-06, P92-07, P92-09	As, Ca, Cl, Co, Cu, F, Gross α , Gross β , K, Mg, Mn, Mo, (NO ₂ + NO ₃)-N, Na, Pb, Pb-210, Ra-226, Rn-222, Se, SO ₄ , TDS, Th-230, U, V, Zn
February 1999	Millsite	Alluvial	GB1126T, GB2820T	As, Co, Cu, Pb, Mn, Mo, Se, U, V, Zn, SemiVOCs, VOCs
April 1999	Millsite	Alluvial	GB1126T, GB2820T, GB3127T	As, HCO ₃ , Ca, Cl, Co, Cu, F, Fe, Gross α , Gross β , K, Mg, Mn, Mo, (NO ₂ + NO ₃)-N, Na, Pb, Pb-210, Ra-226, Rn-222, Se, SO ₄ , TDS, Th-230, U, U-234, U-235, U-238, V, Zn
	Downgradient	Alluvial	82-08, 92-07, 92-08, 92-09, 92-11, 95-01, 95-03, P92-02, P92-04, P92-05, P92-06, P92-07, P92-09	
		Dakota Sandstone	92-12	
		Burro Canyon	83-70, 92-10, 95-06	
July 1999	Onsite	Alluvial	GB1126T, GB2820T	As, Br, Ca, Cl, Co, Cu, F, Fe, Gross α , Gross β , K, Mg, Mn, Mo, (NO ₂ + NO ₃)-N, Na, Pb, Pb-210, Ra-226, Rn-222, Se, SO ₄ , TDS, Th-230, U, V, Zn
	Downgradient	Alluvial	82-08, 88-85, 92-07, 92-08, 92-09, 92-11, 95-03, P92-02, P92-04, P92-05, P92-06, P92-07, P92-09, T99-01, T99-03, T99-05	
September 1999	Downgradient	Alluvial PerT Wall	R1-M1, R1-M2, R1-M3, R1-M4, R1-M5, R10-M1, R11-M1, R2-M1, R2-M10, R2-M2, R2-M3, R2-M4, R2-M5, R2-M6, R2-M7, R2-M8, R2-M9, R3-M1, R3-M2, R3-M3, R3-M4, R4-M1, R4-M2, R4-M3, R4-M4, R4-M5, R4-M6, R4-M7, R4-M8, R5-M1, R5-M10, R5-M2, R5-M3, R5-M4, R5-M5, R5-M6, R5-M7, R5-M8, R5-M9, R6-M2, R6-M3, R6-M4, R6-M5, R7-M1, R9-M1, T1-D, T1-S, T2-D, T2-S, T3-D, T3-S, T4-D, T4-S, T5-D, T5-S	As, Br, Ca, Cl, Fe, Mg, Mn, Mo, NO ₃ , K, Ra-226, Se, Na, SO ₄ , U, V
October 1999	Upgradient	Alluvial	92-05	As, Ca, Cl, Co, Cu, F, Fe, Gross α , Gross β , K, Mg, Mn, Mo, NO ₃ , (NO ₂ + NO ₃)-N, Na, Pb, Pb-210, Ra-226, Rn-222, Se, SO ₄ , TDS, Th-230, U, U-234, U-238, V, Zn
		Burro Canyon	92-06	
		Dakota Sandstone	92-13	
	Millsite	Alluvial	82-20, 31SW93-200-4, GB1126T	
		Burro Canyon	93-01, 31SW93-200-1	
		Dakota Sandstone	31SW93-200-2	
		Mancos Shale	31SW93-200-3	
	Downgradient	Alluvial	82-08, 88-85, 92-07, 92-08, 92-09, 92-11, 95-01, 95-03, P92-02, P92-03, P92-04, P92-05, T99-01, T99-03, T99-05	
		Alluvial PerT Wall	R1-M1, R1-M2, R1-M3, R1-M4, R1-M5, R10-M1, R2-M1, R2-M10, R2-M2, R2-M3, R2-M4, R2-M5, R2-M6, R2-M7, R2-M8, R2-M9, R3-M1, R3-M2, R3-M3, R3-M4, R4-M1, R4-M2, R4-M3, R4-M4, R4-M5, R4-M6, R4-M7, R4-M8, R5-M1, R5-M10, R5-M2, R5-M3, R5-M4, R5-M5, R5-M6, R5-M7, R5-M8, R5-M9, R6-M2, R6-M3, R6-M4, R6-M5, T1-D, T1-S, T2-D, T2-S, T3-D, T3-S, T4-D, T4-S, T5-D, T5-S, T6-D	
		Burro Canyon	83-70, 92-10, 95-02, 95-04, 95-06, 95-08	
		Dakota Sandstone	92-12	
		Dakota Sandstone	95-07	
	Crossgradient	Burro Canyon	31NE93-205	
		Dakota Sandstone	95-07	
November 1999	Downgradient	Alluvial PerT Wall	R1-M1, R1-M2, R1-M3, R1-M4, R1-M5, R10-M1, R11-M1, R2-M1, R2-M10, R2-M2, R2-M3, R2-M4, R2-M5, R2-M6, R2-M7, R2-M8, R2-M9, R3-M1, R3-M2, R3-M3, R3-M4, R4-M1, R4-M2, R4-M3, R4-M4, R4-M5, R4-M6, R4-M7, R4-M8, R5-M1, R5-M10, R5-M2, R5-M3, R5-M4, R5-M5, R5-M6, R5-M7, R5-M8, R5-M9, R6-M2, R6-M4, R6-M5, R9-M1, T1-D, T1-S, T2-D, T2-S, T3-D, T3-S, T4-D, T4-S, T5-D, T5-S, T6-D	As, Ca, Cl, Fe, Mg, Mn, Mo, NO ₃ , K, Se, Na, SO ₄ , U, V

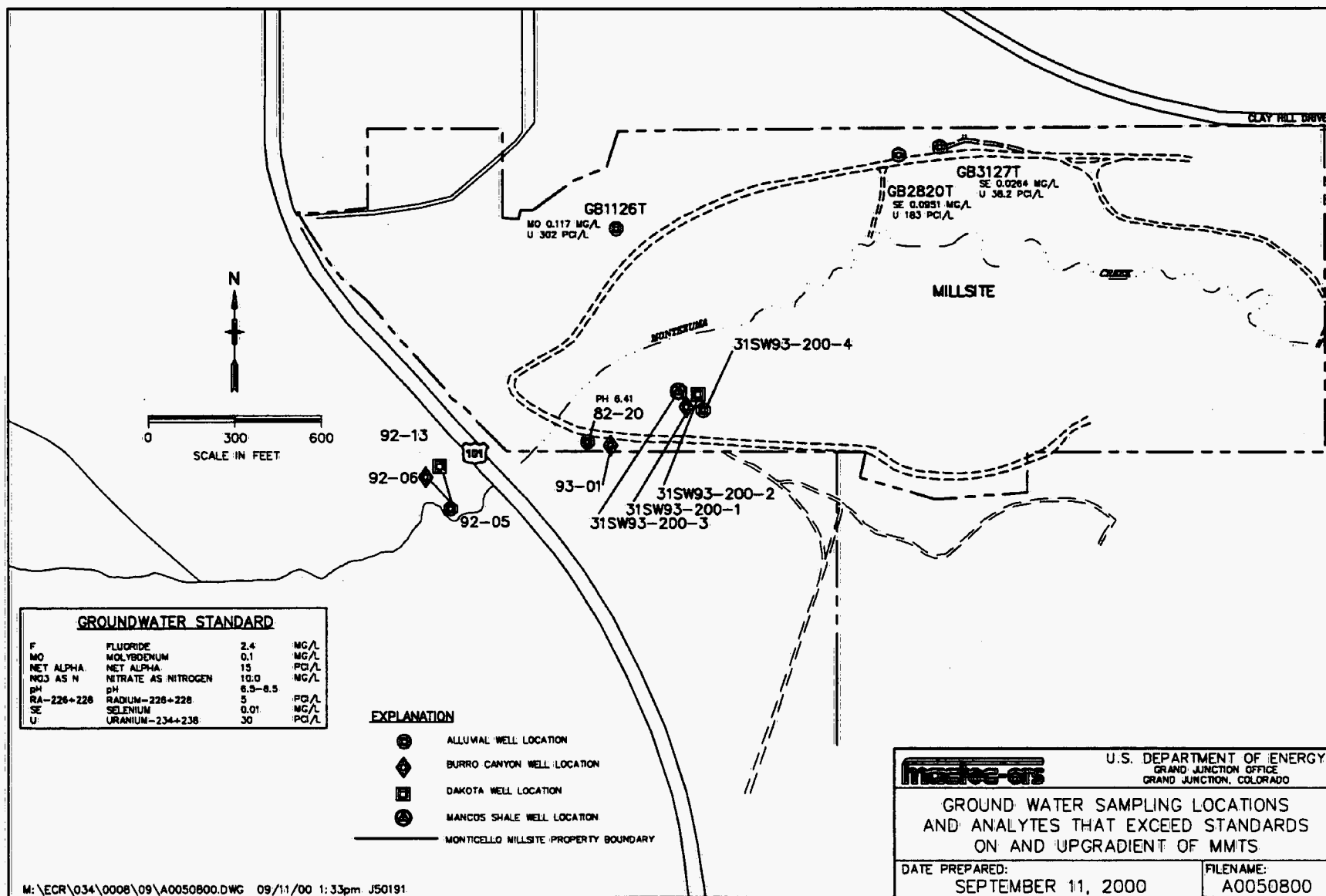


Figure 10. Ground Water Sampling Locations and Analytes That Exceed Standards On and Upgradient of MMTS

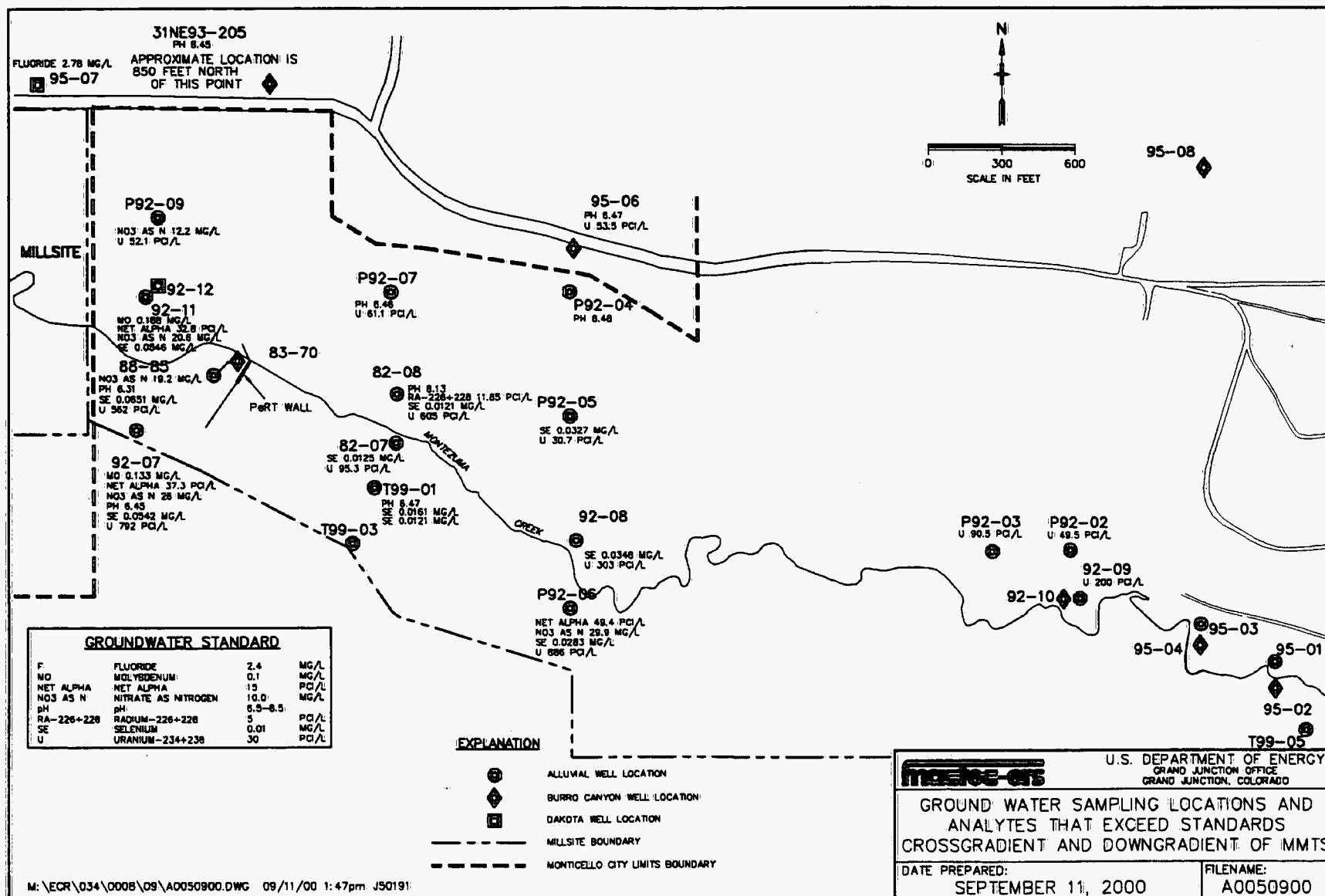


Figure 11. Ground Water Sampling Locations and Analytes That Exceed Standards Crossgradient and Downgradient of MMTS

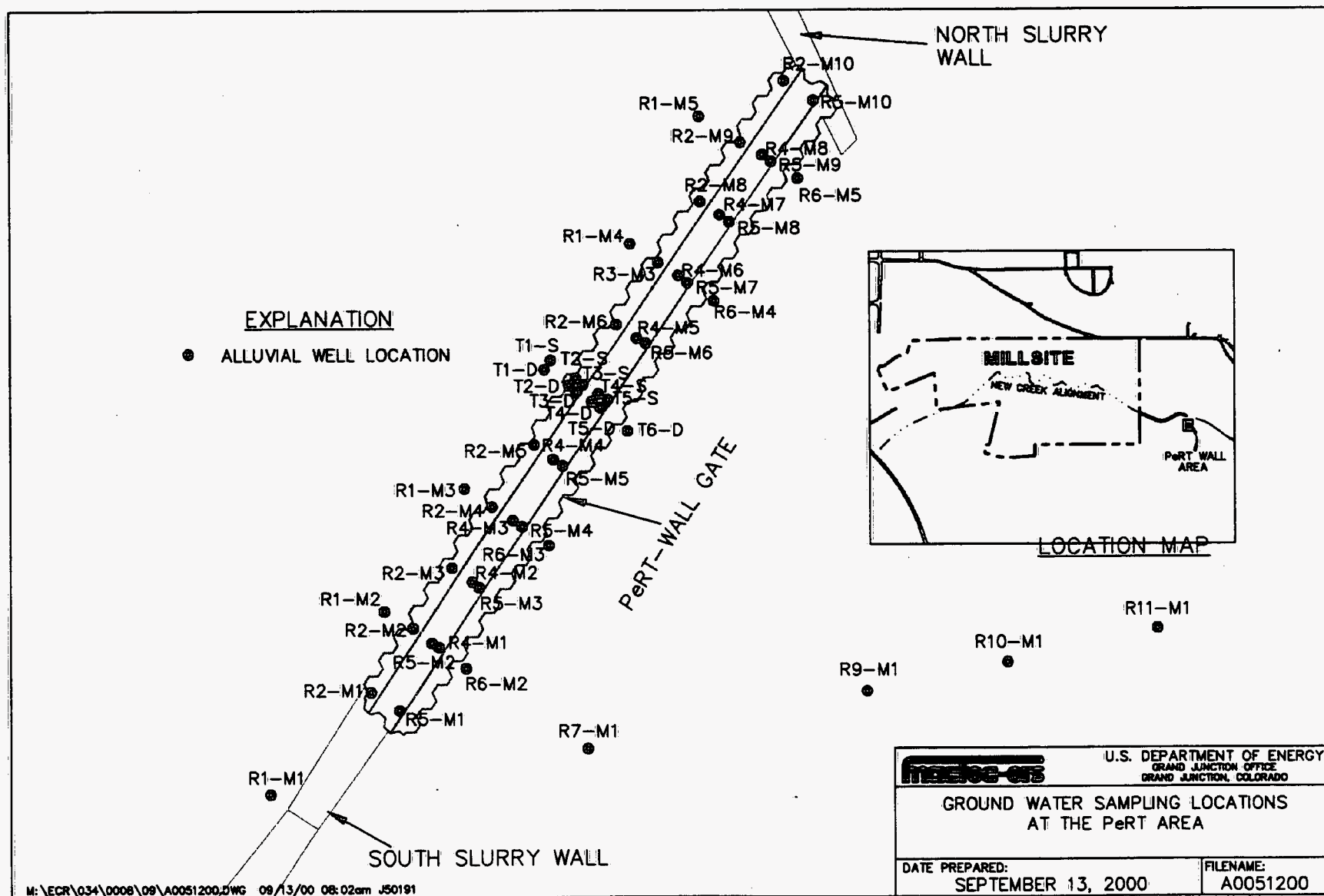


Figure 12. Ground Water Sampling Locations At The PeRT Area

sampling locations of downgradient and cross-gradient wells, and Figure 12 shows the sampling locations of PeRT wall wells. Included in figures 10 and 11 are the concentrations of analytes that exceeded applicable ground water standards. Analytical results of all 1999 well samples are included in the Appendix A, Table A-19; Quality Assurance (QA) / Quality Control (QC) analytical data for samples collected at or near the MMTS during 1999 are included in Appendix A, Table A-20.

Sample results from upgradient alluvial, Dakota Sandstone, and Burro Canyon wells were below Federal and State standards. Analyte concentrations measured in upgradient alluvial well 92-05 are consistent with historical results as illustrated in Figures 13 through 15. Maximum concentrations of analytes measured in alluvial wells are listed and compared to Federal and/or State standards and historical maximums in Table 10. Concentrations of groundwater analytes that exceeded standards in 1999 are posted for each well in Figures 10 and 11.

All six permanent wells remaining on the millsite, which include alluvial (2), Burro Canyon (2), Dakota Sandstone, and Mancos Shale wells, were sampled in October (Figure 10). These wells are upgradient of the former tailings piles and generally reflect background water quality. With the exception of the pH at well 82-20 (6.41), sample concentrations from these wells were below State and Federal standards.

In addition to the permanent wells in the millsite, five temporary alluvial wells were installed in 1999 on the north hillslope of the millsite. These wells were scheduled for sampling during each quarterly sampling event, however, only well GB1126T routinely yielded enough water for sample collection. Partial samples were collected periodically from temporary wells GB2820T and GB3127T. Sample concentrations from these temporary wells exceeded ground water standards for molybdenum, selenium, and uranium (Figure 10).

Groundwater contamination in the alluvial aquifer downgradient of the millsite has been documented and verified from historical investigations and monitoring programs. In 1999, the standards for molybdenum, net alpha, nitrate as N, pH, selenium, radium-226 + radium-228, and uranium-234 + uranium-238 were exceeded in samples from one or more downgradient alluvial wells (Figure 11). Time versus concentrations graphs (Figures 13 through 15) display the elevated contaminant concentrations in downgradient alluvial wells over time.

Uranium-234 + 238 concentrations from downgradient Burro Canyon well 95-06 (53.5 pCi/L) exceeded the standard (30 pCi/L). However, as explained in the *Monticello Mill Tailings Site OU III Remedial Investigation* (DOE 1998) report, elevated concentrations of isotopic uranium observed in the Burro Canyon aquifer at this location have been attributed to naturally occurring uranium, rather than contamination associated with uranium mill tailings. All other analyte concentrations measured in downgradient Burro Canyon wells were below applicable standards. The measured pH of 6.45 in crossgradient Burro Canyon well 31NE93-205 exceeded the State standard. Results from downgradient Dakota Sandstone well 92-12 were also below applicable standards. The fluoride concentration (2.78 mg/L) in the sample from cross-gradient Dakota Sandstone well 95-07 exceeded the standard (2.4 mg/L).

Temporary wells (e.g., T99-01) were installed downgradient of the millsite in June and October of 1999. These wells were installed to determine aquifer boundaries, to determine extent of ground water contamination in areas not previously characterized, and to guide placement of permanent wells for long-term monitoring.

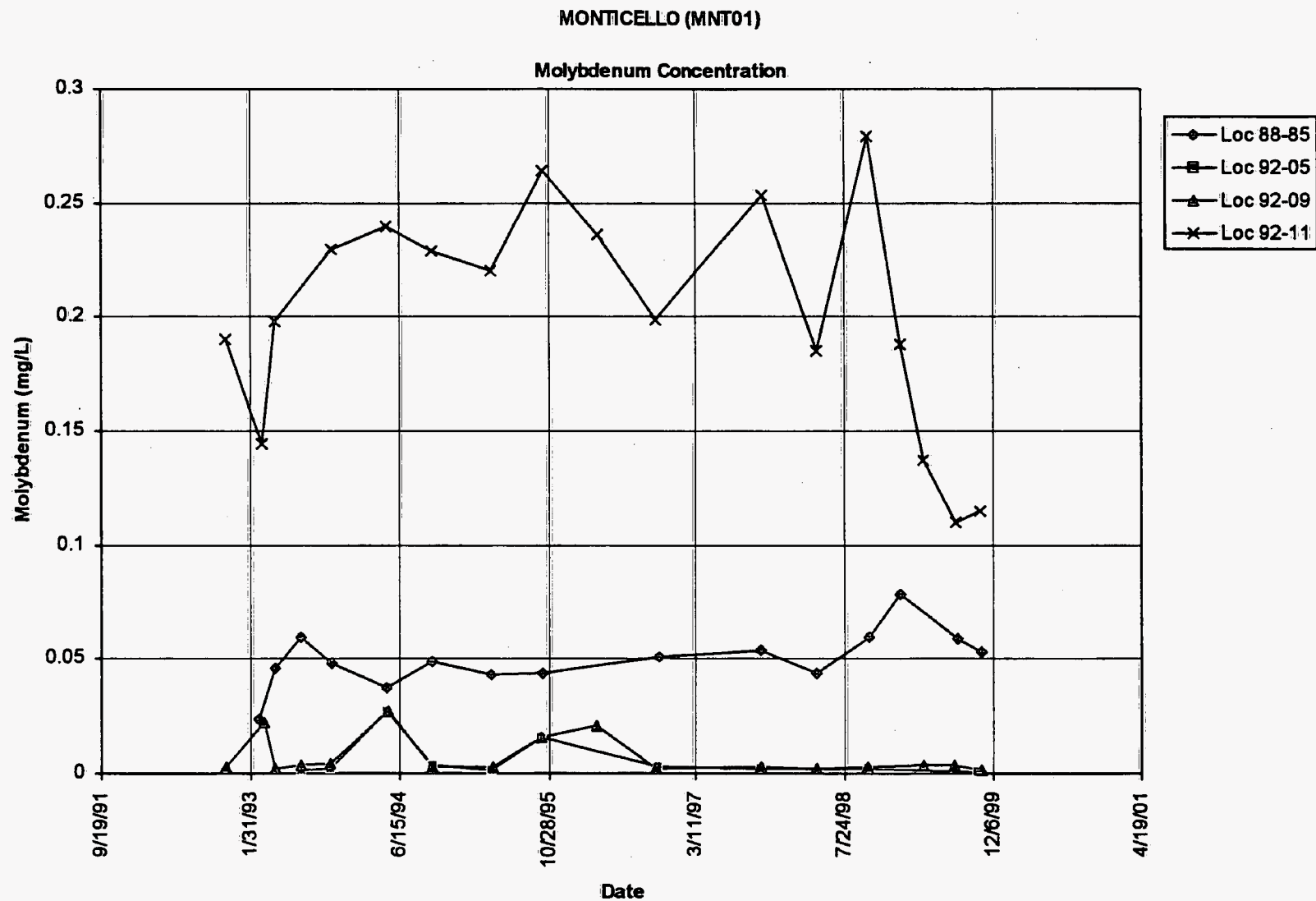
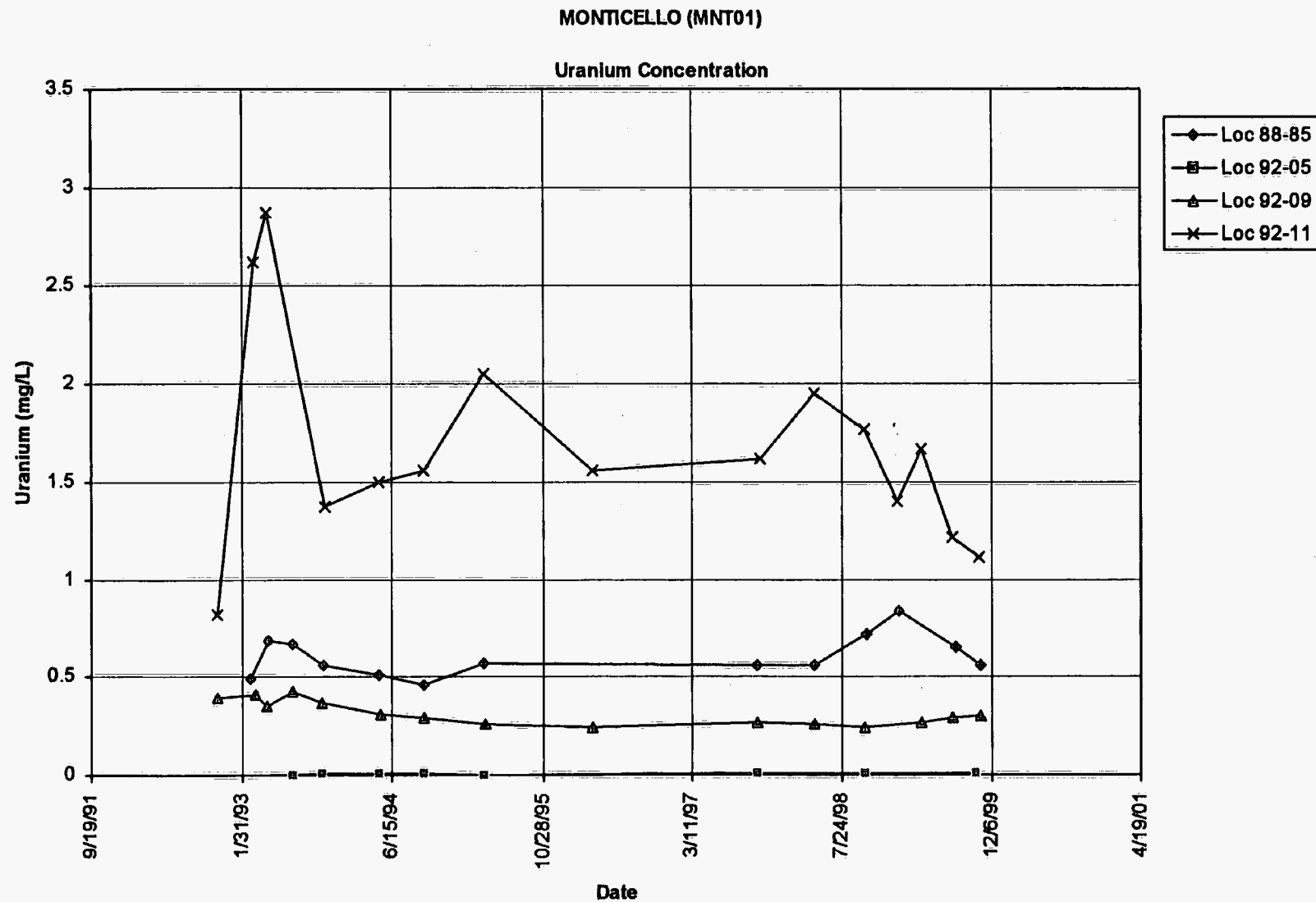


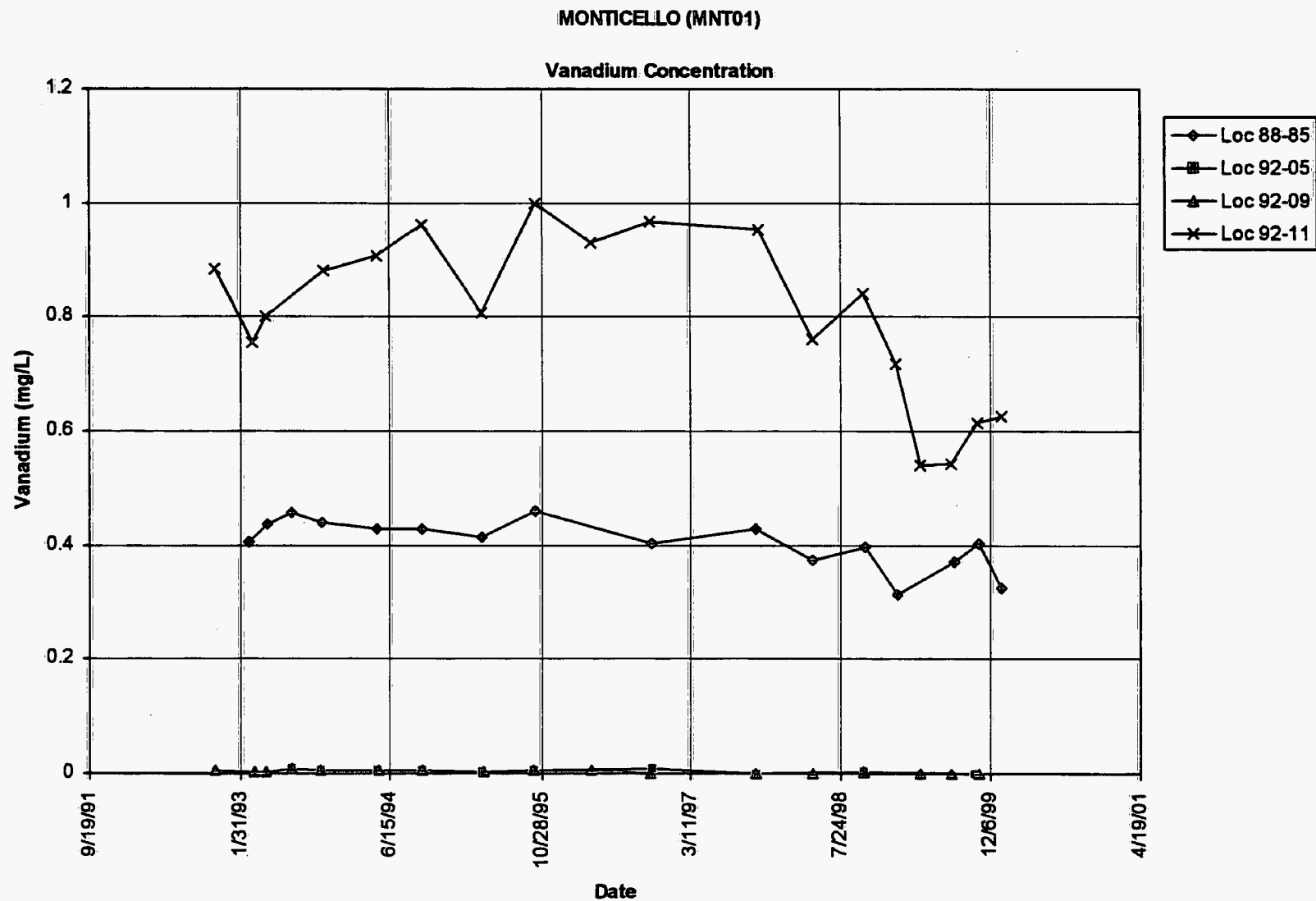
Figure 13. Molybdenum Concentrations at Selected Alluvial Wells

8/26/2000 3:26 pm



8/26/2000 3:25 pm

Figure 14. Uranium Concentrations at Selected Alluvial Wells



9/11/2000 1:07 pm

Figure 15. Vanadium Concentrations at Selected Alluvial Wells

Table 10. Comparison of Federal^a and State of Utah^b Groundwater Quality Standards with 1999 and Historical Maximum Concentrations in Alluvial Aquifer^c

	State		1999 Maximum ^d			Historical Maximum ^{d,e}		
Constituent	Standard							
			Up-Gradient	On-Site	Down-Gradient	Up-Gradient	On-Site	Down-Gradient
Anion								
Fluoride	2.4	mg/L	0.192	0.264	0.873	0.287	5.66	0.936
Nitrate as Nitrogen ^f	10.0	mg/L	0.763	1.03	29.9	4.72	263	33.3
General								
PH	6.5-8.5	s.u.	---	6.41-6.41	6.13-10.1	6.37-7.32	6-9.25	5.9-8.8
Metal								
Arsenic	0.05	mg/L	<0.0004	~0.0052	0.0183	~0.0108	1.104	0.054
Barium	1.0	mg/L	---	---	---	~0.074	0.85	1
Cadmium	0.01	mg/L	---	---	---	<0.001	0.005	0.005
Chromium	0.05	mg/L	---	---	---	<0.006	0.037	0.01
Copper	1.0	mg/L	0.0015	0.0371	0.0087	0.0652	0.174	0.0285
Lead	0.05	mg/L	<0.0003	0.0062	~0.00075	0.0032	0.0229	~0.0248
Mercury	0.002	mg/L	---	---	---	<0.0001	0.0023	<0.001
Molybdenum	0.1	mg/L	<0.0008	0.117	0.188	~0.0036	34.2	0.53
Selenium	0.01	mg/L	0.00094	0.0951	0.0651	~0.0051	0.402	~0.169
Silver	0.05	mg/L	---	---	---	<0.007	~0.0067	0.152
Zinc	5.0	mg/L	0.0125	0.107	0.059	0.0297	5.02	0.47
Radiological								
Net Alpha ^g	15	pCi/L	0.269	~10	49.4	~4.12	~4320	873
Radium-226+228	5	pCi/L	<0.18	<0.4	11.85	0.66	44	3.19
Uranium-234+238 ^h	30	pCi/L	3.56	302	1120	8.48	8590	2280
Volatile								
1,1,1-Trichloroethane	0.200	mg/L	---	<0.025	---	<0.001	<0.001	<0.001
1,1-Dichloroethene	0.007	mg/L	---	<0.025	---	<0.001	<0.001	<0.001
1,2-Dichloroethane	0.005	mg/L	---	<0.025	---	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	0.075	mg/L	---	<0.05	---	<0.01	<0.01	<0.01
Benzene	0.005	mg/L	---	<0.025	---	<0.001	<0.001	<0.001
Carbon tetrachloride	0.005	mg/L	---	<0.025	---	<0.002	<0.002	<0.002
Trichloroethene	0.005	mg/L	---	<0.025	---	<0.001	<0.001	<0.001
Trihalomethanes ⁱ	0.1	mg/L	---	<0.05	---	<0.001	<0.001	<0.001
Vinyl chloride	0.002	mg/L	---	<0.05	---	<0.002	<0.002	<0.002

^a Standards from the Uranium Mill Tailings Radiation Control Act, revised in 1986.

^b State of Utah Ground Water Quality Standards, Title 26, Chapter 11, Utah Code Annotated. Not all state standards are listed in this table.

^c A "—" indicates no data available; a "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit); a "~" indicates an estimated value.

^d The values are in units shown under the Federal/State Standard column.

^e Based on maximum concentrations observed from 1984 through 1998.

^f Nitrate (as N) was derived using the following conversion: nitrate (as N) = NO₃ + 4.427.

^g Measured values represent total gross alpha minus uranium activity. Uranium concentrations, which were measured in milligrams per liter, were converted to picocuries per liter. This conversion assumes equilibrium and an activity of 0.687 picocuries per microgram (pCi/μg).

^h Total uranium concentrations, which were measured in milligrams per liter, were converted to Uranium-234+238 in picocuries per liter for comparison purposes. This conversion assumes equilibrium and an activity of 0.671 picocuries per microgram (pCi/μg).

ⁱ Trihalomethanes include bromodichloromethane, bromoform, dibromochloromethane, and chloroform.

A PeRT wall was installed in 1999 east of the millsite (Figure 12) as a potential treatment technology for contaminated alluvial ground water. The PeRT wall consists of impermeable sections of wall on the outside that funnel ground water through the permeable reactive gate at the center of the wall. The permeable reactive gate is composed of a zero valent iron (reactive media) and gravel.

A network of approximately 50 wells installed at the PeRT wall was monitored in September, October, and November of 1999. These wells were installed to monitor the performance of the PeRT wall as a treatment technology. Results from the PeRT wall monitoring indicate that the reactive media is effective in reducing the concentrations of ground water contaminants. A summary and interpretation of PeRT wall monitoring data is found in *Interim Remedial Action Progress Report* (in progress), and the 1999 analytical results of PeRT wall monitoring are included in Appendix A. A PeRT wall Treatability Study Report will be prepared in 2002 to evaluate the first two years of monitoring data.

A complete description of the MMTS groundwater systems, including detailed analysis of the nature and extent of groundwater contamination, groundwater flow, contaminant transport, and groundwater and surface water interaction, is presented in the *Monticello Mill Tailings Site OU III Remedial Investigation* (DOE 1998) report.

4.0 References

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40 CFR 355. U.S. Environmental Protection Agency, "Emergency Planning and Notification," *U.S. Code of Federal Regulations*.

40 CFR 370. U.S. Environmental Protection Agency, "Hazard Chemical Reporting: Community Right-to-Know," *U.S. Code of Federal Regulations*.

40 CFR 761. U.S. Environmental Protection Agency, "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions," *U.S. Code of Federal Regulations*.

50 CFR 402. U.S. Fish and Wildlife Service, "Endangered Species Act," *U.S. Code of Federal Regulations*.

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Appendix A

*Table A-1. Radon Data for Monticello, First Quarter 1999
(date installed: 01/15/1999; date removed: 04/06/1999)^a*

Sample Location	Detector Number	Radon Concentration	
		(pCi/L)	(μ Ci/mL) ^b
R-M-1-RN	4350750	0.9	9E-10
R-M-2-RN	4350604	0.4	4E-10
R-M-3-RN	4350613	0.6	6E-10
R-M-3-RN	4350665	0.7	7E-10
R-M-4-RN	4350639	0.6	6E-10
R-M-5-RN	4350660	0.7	7E-10
R-M-6-RN	4350729	0.8	8E-10
R-M-7-RN	4350615	0.5	5E-10
R-M-7-RN	4350672	0.6	6E-10
R-M-8-RN	4350618	0.5	5E-10
R-M-9-RN	4350628	0.8	8E-10
R-M-9-RN	4350654	0.5	5E-10
RN-M-04	4350664	0.7	7E-10
RN-M-06	4350642	0.8	8E-10
RN-M-07	4286645	0.7	7E-10
RN-M-07	4350638	0.5	5E-10
RN-M-07	4350647	0.8	8E-10
RN-M-07	4350658	0.4	4E-10
RN-M-08	4350679	0.8	8E-10
RN-M-09	4350612	0.6	6E-10
RN-M-10	4350643	<0.4	<4E-10
RN-M-10	4350846	<0.4	<4E-10
RN-M-11	4350687	<0.4	<4E-10
RN-M-11	4350716	<0.4	<4E-10
RN-M-14	4350655	0.4	4E-10
RN-M-14	4350656	<0.4	<4E-10

^a A "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit).

^b Scientific notation E-10 = "x 10⁻¹⁰".

*Table A-1 (continued). Radon Data for Monticello, First Quarter 1999
(date installed: 01/15/1999; date removed: 04/06/1999)^a*

Sample Location	Detector Number	Radon Concentration	
		(pCi/L)	(pCi/mL) ^b
RN-M-15	4286624	0.6	6E-10
RN-M-15	4350659	0.4	4E-10
RN-M-16	4350696	0.7	7E-10
RN-M-18	4350634	0.7	7E-10
RN-M-20	4350657	0.8	8E-10
RN-M-22	4350631	0.7	7E-10
RN-M-24	4350793	0.6	6E-10
RN-M-26	4350648	0.9	9E-10
RN-M-28	4350708	0.9	9E-10
RN-M-30	4350776	0.8	8E-10
RN-M-32	4350700	<0.4	<4E-10
RN-M-34	4350661	0.5	5E-10
RN-M-37	4350646	1.1	1.1E-09
RN-M-38	4350651	<0.4	<4E-10
RN-M-39	4350624	0.9	9E-10
RN-M-41	4350691	0.6	6E-10
RN-M-42	4349792	0.7	7E-10
RN-M-43	4350668	0.8	8E-10
RN-M-44	4350755	1.5	1.5E-09
RN-M-45	4350640	<0.4	<4E-10
RN-M-46	4350652	0.7	7E-10
RN-M-47	4350680	<0.4	<4E-10
RN-M-48	4350662	0.5	5E-10
RN-M-48	4350675	0.4	4E-10

^a A "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit).

^b Scientific notation E-10 = "x 10⁻¹⁰".

Table A-2. Radon Data for Monticello, Second Quarter 1999
(date installed: 04/06/1999; date removed: 07/21/1999)^a

Sample Location	Detector Number	Radon Concentration	
		(pCi/L)	(pCi/mL) ^b
R-M-1-RN	4346705	<0.3	<3E-10
R-M-1-RN	4346751	<0.3	<3E-10
R-M-2-RN	4346618	<0.3	<3E-10
R-M-2-RN	4346620	<0.3	<3E-10
R-M-3-RN	4346654	<0.3	<3E-10
R-M-3-RN	4346760	0.6	6E-10
R-M-4-RN	3436570	0.4	4E-10
R-M-5-RN	4346574	0.3	3E-10
R-M-5-RN	4346576	0.4	4E-10
R-M-6-RN	4346600	<0.3	<3E-10
R-M-7-RN	4346585	0.4	4E-10
R-M-7-RN	4346714	<0.3	<3E-10
R-M-8-RN	4346572	<0.3	<3E-10
R-M-9-RN	4346664	<0.3	<3E-10
R-M-9-RN	4346712	<0.3	<3E-10
RN-M-04	4346597	0.6	6E-10
RN-M-06	4346746	0.9	9E-10
RN-M-07	4346591	0.5	5E-10
RN-M-07	4346640	0.7	7E-10
RN-M-08	4346623	<0.3	<3E-10
RN-M-09	4346580	<0.3	<3E-10
RN-M-09	4346586	0.6	6E-10
RN-M-10	4346569	<0.3	<3E-10
RN-M-11	4346700	0.3	3E-10
RN-M-14	4346685	<0.3	<3E-10

^a A "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit).

^b Scientific notation E-10 = "x 10⁻¹⁰".

*Table A-2 (continued). Radon Data for Monticello, Second Quarter 1999
(date installed: 04/06/1999; date removed: 07/21/1999)^a*

Sample Location	Detector Number	Radon Concentration	
		----- (pCi/L)	(μCi/mL) ^b
RN-M-15	4346625	0.5	5E-10
RN-M-16	4346672	0.7	7E-10
RN-M-18	4346655	<0.3	<3E-10
RN-M-20	4346647	0.7	7E-10
RN-M-22	4346709	0.5	5E-10
RN-M-24	4346628	0.4	4E-10
RN-M-26	4346634	0.6	6E-10
RN-M-28	4346583	<0.3	<3E-10
RN-M-30	4346609	0.6	6E-10
RN-M-32	4346679	0.6	6E-10
RN-M-34	4346590	0.7	7E-10
RN-M-37	4346577	0.5	5E-10
RN-M-37	4346587	0.4	4E-10
RN-M-38	4346573	0.3	3E-10
RN-M-38	4346725	0.5	5E-10
RN-M-39	4346598	0.4	4E-10
RN-M-39	4346665	0.4	4E-10
RN-M-41	4346578	0.8	8E-10
RN-M-42	4346619	0.5	5E-10
RN-M-43	4346643	0.7	7E-10
RN-M-44	4346588	0.9	9E-10
RN-M-45	4346682	0.4	4E-10
RN-M-46	4346589	<0.3	<3E-10
RN-M-47	4346582	1.1	1.1E-09
RN-M-48	4346641	<0.3	<3E-10

^a A "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit).

^b Scientific notation E-10 = "x 10⁻¹⁰".

Table A-3. Radon Data for Monticello, Third Quarter 1999
(date installed: 07/21/1999; date removed: 10/27/1999)^a

Sample Location	Detector Number	Radon Concentration	
		(pCi/L)	(μ Ci/mL) ^b
R-M-1-RN	4397449	0.6	6E-10
R-M-1-RN	4397464	0.4	4E-10
R-M-2-RN	4397451	0.3	3E-10
R-M-3-RN	4397470	0.6	6E-10
R-M-3-RN	4397480	0.4	4E-10
R-M-4-RN	4397460	<0.3	<3E-10
R-M-5-RN	4397455	<0.3	<3E-10
R-M-5-RN	4397459	<0.3	<3E-10
R-M-6-RN	4397428	<0.3	<3E-10
R-M-6-RN	4397477	0.4	4E-10
R-M-7-RN	4397431	<0.3	<3E-10
R-M-7-RN	4397473	<0.3	<3E-10
R-M-8-RN	4397465	0.5	5E-10
R-M-9-RN	4397433	<0.3	<3E-10
R-M-9-RN	4397454	<0.3	<3E-10
RN-M-04	4397461	0.5	5E-10
RN-M-06	4397490	0.5	5E-10
RN-M-07	4397441	<0.3	<3E-10
RN-M-07	4397452	0.4	4E-10
RN-M-08	4397457	<0.3	<3E-10
RN-M-09	4397444	0.4	4E-10
RN-M-09	4397500	<0.3	<3E-10
RN-M-10	4397472	<0.3	<3E-10
RN-M-10	4397489	0.4	4E-10
RN-M-11	4397462	<0.3	<3E-10
RN-M-14	4397445	<0.3	<3E-10

^a A "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit).

^b Scientific notation E-10 = "x 10⁻¹⁰".

*Table A-3 (continued). Radon Data for Monticello, Third Quarter 1999
(date installed: 07/21/1999; date removed: 10/27/1999)^a*

Sample Location	Detector Number	Radon Concentration	
		(pCi/L)	(pCi/mL) ^b
RN-M-15	4397440	0.4	4E-10
RN-M-16	4397478	0.9	9E-10
RN-M-18	4397434	0.4	4E-10
RN-M-20	4397430	0.4	4E-10
RN-M-22	4397443	0.6	6E-10
RN-M-24	4397429	0.6	6E-10
RN-M-26	4397426	0.6	6E-10
RN-M-28	4397450	1.3	1.3E-09
RN-M-30	4397427	0.9	9E-10
RN-M-32	4397474	0.4	4E-10
RN-M-34	4397488	0.5	5E-10
RN-M-37	4397471	0.4	4E-10
RN-M-38	4397481	0.5	5E-10
RN-M-39	4397479	0.4	4E-10
RN-M-41	4397432	0.8	8E-10
RN-M-42	4397468	0.6	6E-10
RN-M-42	4397491	0.6	6E-10
RN-M-43	4397458	0.6	6E-10
RN-M-45	4397476	<0.3	<3E-10
RN-M-46	4397446	1.2	1.2E-09
RN-M-47	4397435	0.4	4E-10
RN-M-47	4397456	<0.3	<3E-10
RN-M-48	4397482	0.5	5E-10

^a A "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit).

^b Scientific notation E-10 = "x 10⁻¹⁰".

*Table A-4. Radon Data for Monticello, Fourth Quarter 1999
(date installed: 10/27/1999; date removed: 01/25/2000)^a*

Sample Location	Detector Number	Radon Concentration	
		(pCi/L)	(μ Ci/mL) ^b
R-M-1-RN	4400475	0.6	6E-10
R-M-2-RN	4400397	0.4	4E-10
R-M-3-RN	4400351	0.5	5E-10
R-M-3-RN	4400412	<0.3	<3E-10
R-M-4-RN	4400408	0.4	4E-10
R-M-5-RN	4400328	<0.3	<3E-10
R-M-6-RN	4400284	0.6	6E-10
R-M-7-RN	4400463	<0.3	<3E-10
R-M-7-RN	4400531	0.5	5E-10
R-M-8-RN	4400348	0.9	9E-10
R-M-8-RN	4400350	0.5	5E-10
R-M-9-RN	4400283	1.1	1.1E-09
R-M-9-RN	4400392	0.7	7E-10
RN-M-04	4400462	0.9	9E-10
RN-M-04	4400464	0.9	9E-10
RN-M-06	4400318	<0.3	<3E-10
RN-M-06	4400378	0.4	4E-10
RN-M-07	4400277	0.9	9E-10
RN-M-07	4400367	0.4	4E-10
RN-M-08	4400439	0.5	5E-10
RN-M-09	4400316	0.4	4E-10
RN-M-10	4400306	0.8	8E-10
RN-M-10	4400450	0.3	3E-10
RN-M-11	4400286	0.6	6E-10
RN-M-14	4400293	0.4	4E-10
RN-M-15	4400334	0.5	5E-10
RN-M-16	4400490	1.0	1.0E-09

^a A "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit).

^b Scientific notation E-10 = "x 10⁻¹⁰".

*Table A-4 (continued). Radon Data for Monticello, Fourth Quarter 1999
(date installed: 10/27/1999; date removed: 01/25/2000)^a*

Sample Location	Detector Number	Radon Concentration	
		(pCi/L)	(pCi/mL) ^b
RN-M-18	4400297	0.5	5E-10
RN-M-20	4400440	0.8	8E-10
RN-M-22	4400339	1.4	1.4E-09
RN-M-24	4400363	3.9	3.9E-09
RN-M-26	4400289	0.7	7E-10
RN-M-28	4400301	0.8	8E-10
RN-M-30	4400304	1.0	1.0E-09
RN-M-32	4400373	0.7	7E-10
RN-M-34	4400403	0.4	4E-10
RN-M-37	4408195	1.0	1.0E-09
RN-M-38	4400337	0.6	6E-10
RN-M-39	4400282	0.9	9E-10
RN-M-41	4400319	1.0	1.0E-09
RN-M-41	4400338	0.5	5E-10
RN-M-45	4400394	0.8	8E-10
RN-M-45	4400479	1.0	1.0E-09
RN-M-46	400493	1.1	1.1E-09
RN-M-47	4400308	0.6	6E-10
RN-M-47	4408186	0.6	6E-10
RN-M-48	4400285	1.1	1.1E-09
RN-M-48	4400322	0.5	5E-10

^a A "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit).

^b Scientific notation E-10 = "x 10⁻¹⁰".

Table A-5. Suspended Particulates (PM₁₀) Data at Station AIR-M-1 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
01/05/1999	6733625	0.982	23.98	0.0229	16
01/11/1999	6733617	0.979	23.98	0.0194	14
01/17/1999	6733607	0.962	23.97	0.0072	5
02/05/1999	6884182	0.980	23.98	0.0005	<1
04/07/1999	6884174	0.937	24.02	0.0499	37
04/13/1999	6884166	0.927	24.02	0.0321	24
04/19/1999	6884158	0.943	24.00	0.0503	37
04/25/1999	6884150	0.942	23.98	0.0027	2
05/01/1999	6884142	0.942	24.02	0.0043	3
05/07/1999	6884134	0.932	23.98	0.0130	10
05/13/1999	6884126	0.944	24.02	0.0280	21
05/19/1999	6884118	0.924	23.98	0.0432	32
05/25/1999	6884110	0.950	24.00	0.0106	8
05/31/1999	6884102	0.941	23.98	0.0188	14
06/06/1999	6907094	0.933	24.00	0.0067	5
06/12/1999	6907086	0.938	24.00	0.0181	13
06/18/1999	6907078	0.923	24.00	0.0191	14
06/24/1999	6907070	0.912	24.00	0.0419	32
06/30/1999	6907061	0.926	24.00	0.0340	25
07/06/1999	6907054	0.916	24.00	0.0464	35
07/12/1999	6907046	0.919	24.00	0.0294	22
07/18/1999	6907038	0.939	24.00	0.0163	12
07/24/1999	6907030	0.932	24.02	0.0129	10
07/30/1999	6907022	0.923	24.02	0.0074	6
08/05/1999	6907014	0.925	24.02	0.0106	8
08/11/1999	6907006	0.923	24.02	0.0094	7
08/17/1999	6908198	0.925	24.02	0.0054	4
08/23/1999	6908191	0.919	24.03	0.0115	9
08/29/1999	6908184	0.920	24.00	0.0085	6

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-5 (continued). Suspended Particulates (PM₁₀) Data at Station AIR-M-1 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
09/04/1999	6908177	0.926	24.00	0.0193	14
09/10/1999	6908170	0.922	24.03	0.0167	13
09/16/1999	6908163	0.933	24.00	0.0025	2
09/22/1999	6908156	0.929	24.02	0.0124	9
09/28/1999	6908149	0.945	24.02	0.0123	9
10/04/1999	6908142	0.946	24.00	0.0281	21
10/10/1999	6908136	0.959	24.03	0.0170	12
10/22/1999	6908124	0.919	24.07	0.0477	36
10/28/1999	6908119	0.917	24.00	0.0570	43
11/09/1999	6908105	0.971	24.07	0.0481	34
11/15/1999	7045798	0.969	24.00	0.0556	40
11/21/1999	7045791	0.993	24.03	0.0063	4
11/27/1999	7045784	0.990	24.02	0.0296	21
12/03/1999	7045777	1.016	24.02	0.0273	19
12/09/1999	7045770	1.025	24.02	0.0125	8
12/15/1999	7045763	0.998	24.02	0.0100	7
12/21/1999	7045755	0.957	24.00	0.0037	3
12/27/1999	7045748	0.952	24.02	0.0216	16

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-6. Suspended Particulates (PM₁₀) Data at Station AIR-M-3 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
01/05/1999	6733624	0.967	23.93	0.0387	28
01/17/1999	6733606	0.964	23.93	0.0069	5
01/23/1999	6884198	0.901	23.92	0.0066	5
01/29/1999	6884189	0.937	23.94	0.0094	7
02/05/1999	6884181	0.932	23.94	0.0052	4
04/07/1999	6884173	0.956	23.97	0.0693	50
04/13/1999	6884165	0.979	23.90	0.0340	24
04/19/1999	6884157	0.963	23.88	0.0347	25
04/25/1999	6884149	0.863	23.89	0.0064	5
05/01/1999	6884141	0.895	23.90	0.0290	23
05/07/1999	6884133	0.951	23.88	0.0205	15
05/13/1999	6884125	0.948	23.90	0.0392	29
05/19/1999	6884117	0.944	23.89	0.0394	29
05/25/1999	6884109	0.953	23.90	0.0232	17
05/31/1999	6884101	0.945	23.90	0.0192	14
06/06/1999	6907093	0.952	23.91	0.0111	8
06/12/1999	6907085	0.942	23.81	0.0197	15
06/18/1999	6907077	0.944	24.02	0.0288	21
06/24/1999	6907069	0.965	23.89	0.0449	32
06/30/1999	6907061	0.948	23.88	0.0598	44
07/06/1999	6907053	0.952	23.90	0.0354	26
07/12/1999	6907045	0.940	23.93	0.0373	28
07/18/1999	6907037	0.944	23.92	0.0147	11
07/24/1999	6907029	0.906	23.91	0.0150	12
07/30/1999	6907021	0.912	23.92	0.0107	8

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-6 (continued). Suspended Particulates (PM₁₀) Data at Station AIR-M-3 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
08/05/1999	6907013	0.897	23.93	0.0334	26
08/11/1999	6907005	0.928	23.91	0.0124	9
08/17/1999	6908197	0.898	23.96	0.0217	17
08/23/1999	6908190	0.939	23.93	0.0148	11
08/29/1999	6908183	0.941	23.94	0.0072	5
09/04/1999	6908186	0.945	23.94	0.0151	11
09/10/1999	6908169	0.942	23.92	0.0408	30
09/16/1999	6908162	0.856	23.94	0.0063	5
09/22/1999	6908155	0.948	23.93	0.0113	8
09/28/1999	6908148	0.897	23.92	0.0105	8
10/04/1999	6908141	0.886	23.92	0.0155	12
10/28/1999	6908118	0.888	23.92	0.0593	47
11/03/1999	6908111	0.925	23.89	0.0411	31
11/09/1999	6908104	0.893	23.91	-0.0003	<1
11/15/1999	7045797	0.955	23.89	0.0502	37
11/21/1999	7045790	0.833	23.90	0.0178	15
11/27/1999	7045783	0.847	23.90	0.0151	12
12/03/1999	7045776	0.805	23.93	0.0270	23
12/09/1999	7045769	0.810	23.92	0.0178	15
12/15/1999	7045762	0.947	23.90	0.0284	21
12/21/1999	7045754	0.956	23.93	0.0091	7
12/27/1999	7045747	0.968	23.89	0.0251	18

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-7. Suspended Particulates (PM₁₀) Data at Station AIR-M-5 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
01/05/1999	6733623	0.970	24.08	0.0104	7
01/11/1999	6733615	0.967	24.07	0.0170	12
01/17/1999	6733605	1.157	24.06	0.0079	5
01/23/1999	6884197	0.985	24.08	0.0053	4
01/29/1999	6884188	0.974	24.08	0.0095	7
02/05/1999	6884180	0.968	24.09	0.0047	3
04/07/1999	6884172	0.925	24.10	0.0423	32
04/13/1999	6884164	0.915	24.07	0.0307	23
04/19/1999	6884156	0.915	24.06	0.0214	16
04/25/1999	6884148	0.914	24.05	0.0066	5
05/01/1999	6884140	0.914	24.08	0.0087	7
05/07/1999	6884132	0.904	24.08	0.0145	11
05/13/1999	6884124	0.900	24.08	0.0253	19
05/19/1999	6884116	0.897	24.07	0.0309	24
05/25/1999	6884108	0.907	24.09	0.0139	11
05/31/1999	6907100	0.897	24.07	0.0147	11
06/06/1999	6907092	0.906	24.08	0.0083	6
06/12/1999	6907084	0.894	24.08	0.0189	15
06/18/1999	6907076	0.896	24.08	0.0288	22
06/24/1999	6907068	0.884	24.07	0.0218	17
06/30/1999	6907060	0.883	24.08	0.0287	23
07/06/1999	6907052	0.888	24.09	0.0252	20
07/12/1999	6907044	0.892	24.09	0.0226	18
07/18/1999	6907036	0.896	24.09	0.0123	9
07/24/1999	6907028	0.889	24.09	0.0129	10
07/30/1999	6907020	0.895	24.10	0.0091	7
08/05/1999	6907012	0.897	24.09	0.0108	8
08/11/1999	6907004	0.895	24.09	0.0094	7
08/17/1999	6908196	0.898	24.08	0.0092	7
12/27/1999	7045746	1.016	24.60	0.0448	30

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-8. Suspended Particulates (PM₁₀) Data at Station AIR-M-6 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
01/05/1999	6733622	0.963	23.87	0.0099	7
01/11/1999	6733614	0.990	23.85	0.0160	11
01/17/1999	6733604	0.944	23.87	0.0045	3
01/23/1999	6884196	0.962	23.87	0.0061	4
01/29/1999	6884187	0.967	23.88	0.0063	5
02/05/1999	6884179	0.976	23.88	0.0471	34
04/07/1999	6884171	0.949	23.89	0.0364	27
04/13/1999	6884163	0.894	23.87	0.0253	20
04/19/1999	6884155	0.953	23.85	0.0205	15
04/25/1999	6884147	0.894	23.85	0.0017	1
05/01/1999	6884139	0.924	23.88	0.0060	5
05/07/1999	6884131	0.914	23.85	0.0099	8
05/13/1999	6884123	0.925	23.84	0.0249	19
05/19/1999	6884115	0.921	23.85	0.0243	18
05/25/1999	6884107	0.917	23.84	0.0121	9
05/31/1999	6907099	0.906	23.85	0.0138	11
06/06/1999	6907091	0.930	23.85	0.0062	5
06/12/1999	6907083	0.918	23.84	0.0126	10
06/18/1999	6907075	0.920	23.84	0.0176	13
06/24/1999	6907067	0.922	23.84	0.0169	13
06/30/1999	6907059	0.906	23.84	0.0151	12
07/06/1999	6907051	0.911	23.85	0.0220	17
07/12/1999	6907043	0.915	23.84	0.0208	16
07/18/1999	6907035	0.920	23.85	0.0104	8
07/24/1999	6907027	0.913	23.84	0.0123	9
11/03/1999	6908110	0.955	23.88	0.0184	13
11/09/1999	6908103	0.955	23.87	0.0153	11
11/15/1999	7045796	0.967	23.87	0.0231	17
11/21/1999	7045789	0.947	23.88	0.0101	7
11/27/1999	7045782	0.944	23.88	0.0128	9
12/03/1999	7045775	0.970	23.85	0.0171	12
12/09/1999	7045768	0.979	23.86	0.0053	4
12/15/1999	7045760	0.986	23.82	0.0075	5
12/21/1999	7054753	0.975	23.88	0.0043	3
12/27/1999	7045745	0.969	23.85	0.0094	7

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-9. Suspended Particulates (PM₁₀) Data at Station AIR-M-7 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
01/05/1999	6733621	0.949	24.08	0.0029	2
01/11/1999	6733613	0.959	24.08	0.0034	2
01/17/1999	6733603	0.945	24.07	0.0023	2
01/23/1999	6884191	0.934	24.02	0.0035	3
01/29/1999	6884186	0.952	24.09	0.0019	1
04/07/1999	6884170	0.921	24.07	0.0327	25
04/13/1999	6884162	0.910	24.02	0.0202	15
04/19/1999	6884154	0.910	24.10	0.0136	10
04/25/1999	6884146	0.954	24.09	0.0001	<1
05/01/1999	6884138	0.926	24.05	0.0068	5
05/07/1999	6884130	0.916	24.05	0.0084	6
05/13/1999	6884122	0.898	24.04	0.0169	13
05/19/1999	6884114	0.894	24.06	0.0197	15
05/25/1999	6884106	0.918	24.06	0.0067	5
05/31/1999	6907098	0.908	24.06	0.0161	12
06/06/1999	6907090	0.917	24.08	0.0053	4
06/12/1999	6907082	0.905	24.08	0.0110	8
06/24/1999	6907066	0.894	24.04	0.0152	12
06/30/1999	6907058	0.892	24.06	0.0162	13
07/06/1999	6907050	0.884	24.04	0.0136	11
07/12/1999	6907042	0.902	24.00	0.0129	10
07/18/1999	6907034	0.880	24.04	0.0091	7
07/24/1999	6907026	0.886	24.04	0.0138	11
07/30/1999	6907018	0.906	24.07	0.0059	5
08/05/1999	6907010	0.894	23.56	0.0072	6
08/11/1999	6907002	0.906	24.60	0.0060	4
08/17/1999	6908195	0.895	24.05	0.0055	4
08/23/1999	6908188	0.888	24.05	0.0092	7
08/29/1999	6908181	0.889	24.06	0.0050	4

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-9 (continued). Suspended Particulates (PM₁₀) Data at Station AIR-M-7 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
09/04/1999	6908174	0.908	24.07	0.0127	10
09/10/1999	6908167	0.891	24.06	0.0112	9
09/16/1999	6908160	0.903	24.05	0.0019	1
09/22/1999	6908153	0.912	24.10	0.0081	6
09/28/1999	6908146	0.929	24.10	0.0090	7
10/04/1999	6908140	0.927	24.10	0.0227	17
10/10/1999	6908134	0.925	24.05	0.0012	1
10/16/1999	6908128	0.929	24.11	0.0191	14
10/22/1999	6908123	0.919	24.07	0.0188	14
10/28/1999	6908116	0.916	24.09	0.0184	14
11/03/1999	6908109	0.961	24.10	0.0147	11
11/09/1999	6908102	0.937	24.10	0.0166	12
11/15/1999	7045795	0.907	24.11	0.0217	17
11/21/1999	7045788	0.888	24.11	0.0044	3
11/27/1999	7045781	0.899	24.07	0.0057	4
12/03/1999	7045774	0.909	24.06	0.0049	4
12/09/1999	7045767	0.904	24.10	0.0033	3
12/15/1999	7045759	0.910	24.08	0.0066	5
12/21/1999	7045752	0.928	24.09	0.0031	2
12/27/1999	7045744	0.923	24.07	0.0063	5

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-10. Suspended Particulates (PM₁₀) Data at Station AIR-M-8 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
01/05/1999	6733620	0.983	24.05	0.0546	38
01/11/1999	6733612	0.950	24.21	0.0018	1
01/17/1999	6733602	0.935	24.24	0.0046	3
01/23/1999	6884194	0.967	24.25	0.0024	2
02/05/1999	6884177	0.978	24.15	-0.0002	<1
04/07/1999	6884179	0.939	24.24	0.0381	28
04/13/1999	6884161	0.928	24.22	0.0312	23
04/19/1999	6884153	0.928	24.22	0.0137	10
04/25/1999	6884145	0.959	24.22	0.0022	2
05/01/1999	6884137	0.977	24.24	0.0058	4
05/07/1999	6884129	0.934	24.21	0.0130	10
05/13/1999	6884121	0.958	24.22	0.0206	15
05/19/1999	6884113	1.039	24.23	0.0205	14
05/25/1999	6884105	0.994	24.22	0.0081	6
05/31/1999	6907097	0.940	24.22	0.0231	17
06/06/1999	6907089	0.949	24.22	0.0056	4
06/12/1999	6907081	0.936	24.21	0.0201	15
06/18/1999	6907073	0.910	24.23	0.0202	15
06/24/1999	6907065	0.911	24.21	0.0185	14
06/30/1999	6907057	0.895	24.24	0.0375	29
07/06/1999	6907049	0.901	24.22	0.0287	22
07/12/1999	6907041	0.919	24.20	0.0319	24
07/18/1999	6907033	0.938	24.32	0.0167	12
07/24/1999	6907025	0.902	24.21	0.0107	8
07/30/1999	6907017	0.909	24.20	0.0076	6

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-10 (continued). Suspended Particulates (PM₁₀) Data at Station AIR-M-8 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
08/05/1999	6907009	0.143	24.50	0.0094	45
08/11/1999	6907001	0.895	24.22	0.0090	7
08/17/1999	6908194	0.926	24.22	0.0172	13
08/23/1999	6908187	0.918	24.29	0.0243	18
08/29/1999	6908180	0.920	24.20	0.0042	3
09/04/1999	6908173	0.940	23.45	0.0166	13
09/10/1999	6908166	0.922	25.04	0.0143	10
09/16/1999	6908159	0.934	24.23	0.0051	4
09/22/1999	6908152	0.944	24.23	0.0546	40
09/28/1999	6908145	0.948	24.23	0.0265	19
10/04/1999	6908139	0.931	24.22	0.0238	18
10/10/1999	6908133	0.943	24.15	0.0019	1
10/16/1999	6908127	0.962	24.21	0.0969	69
10/22/1999	6908122	0.951	24.22	0.0379	27
10/28/1999	6908115	0.949	24.12	0.0357	26
11/03/1999	6908108	0.970	24.22	0.0248	18
11/09/1999	6908101	0.956	24.11	0.0199	14
11/15/1999	7045794	0.953	24.14	0.0177	13
11/21/1999	7045787	0.977	24.14	0.0124	9
11/27/1999	7045780	0.975	24.22	0.0050	4
12/03/1999	7045773	1.000	24.23	0.0078	5
12/15/1999	7045758	1.016	24.28	0.1022	69
12/21/1999	7045751	1.005	24.14	0.0113	8
12/27/1999	7045743	0.956	24.12	0.0429	31

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-11. Suspended Particulates (PM_{10}) Data at Station AIR-M-8A During 1999

Sample Date	Filter Number	Flow Rate (m^3/min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration ($\mu g/m^3$)
01/05/1999	6733619	0.974	24.01	0.0687	49
01/11/1999	6733609	0.971	24.00	0.0093	7
01/17/1999	6733601	0.971	24.00	0.0014	1
01/23/1999	6884193	1.021	24.03	0.0039	3
01/29/1999	6884184	1.048	23.97	0.0059	4
04/07/1999	6884168	0.941	23.98	0.0484	36
04/13/1999	6884160	0.956	23.93	0.0408	30
04/19/1999	6884152	1.044	23.89	0.0157	10
04/25/1999	6884144	0.992	23.92	0.0208	15
05/01/1999	6884136	0.921	23.90	0.0052	4
05/07/1999	6884128	0.960	23.93	0.0162	12
05/13/1999	6884120	0.957	23.91	0.0251	18
05/19/1999	6884112	0.977	23.91	0.0251	18
05/25/1999	6884104	0.962	24.00	0.0110	8
05/31/1999	6907096	0.955	23.90	0.0260	19
06/06/1999	6907088	0.961	23.98	0.0071	5
06/12/1999	6907080	0.956	23.91	0.0196	14
06/18/1999	6907072	0.953	23.75	0.0208	15
06/24/1999	6907064	0.945	24.10	0.0199	15
06/30/1999	6907056	0.898	23.96	0.0544	42
07/06/1999	6907048	0.947	23.98	0.0297	22
07/12/1999	6907040	0.950	23.94	0.0320	23
07/18/1999	6907032	0.930	24.05	0.0170	13
07/24/1999	6907024	0.925	24.00	0.0105	8
07/30/1999	6907016	0.930	23.97	0.0094	7

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-11 (continued). Suspended Particulates (PM₁₀) Data at Station AIR-M-8A During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
08/05/1999	6907008	0.931	23.93	0.0098	7
08/11/1999	6908200	0.930	23.96	0.0048	4
08/17/1999	6908193	0.931	23.94	0.0224	17
08/23/1999	6908186	0.926	24.02	0.0254	19
08/29/1999	6908179	0.905	24.00	0.0067	5
09/04/1999	6908172	0.932	23.95	0.0165	12
09/10/1999	6908165	0.929	23.91	0.0127	10
09/16/1999	6908158	0.961	23.96	0.0060	4
09/22/1999	6908151	0.911	23.98	-0.0366	<1
09/28/1999	6908144	0.946	23.94	0.0248	18
10/04/1999	6908138	0.935	24.00	0.0045	3
10/10/1999	6908132	0.957	23.94	-0.0393	<1
10/16/1999	6908126	0.922	23.96	0.1055	80
10/22/1999	6908121	0.915	23.89	0.0358	27
10/28/1999	6908114	0.937	23.94	0.0344	26
11/03/1999	6908107	0.942	24.01	0.0238	18
11/09/1999	7045800	0.942	23.93	0.0156	12
11/15/1999	7045793	0.964	24.00	0.0181	13
11/21/1999	7045786	0.971	23.97	0.0130	9
11/27/1999	7045779	0.968	23.92	0.0072	5
12/03/1999	7045772	0.928	23.94	0.0237	18
12/09/1999	7045765	0.957	23.93	0.0083	6
12/15/1999	7045757	0.962	23.95	0.1017	74
12/21/1999	7045750	0.955	23.97	0.0100	7
12/27/1999	7045742	0.951	23.93	0.0390	29

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-12. Suspended Particulates (PM₁₀) Data at Station AIR-M-9 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
01/05/1999	6733618	0.966	23.98	-0.0002	<1
01/11/1999	6733608	0.962	24.00	0.0042	3
01/17/1999	6884200	0.962	23.99	-0.0024	<1
01/23/1999	6884192	0.934	24.01	-0.0109	<1
02/05/1999	6884175	0.963	24.20	-0.0026	<1
04/07/1999	6884167	0.922	24.22	0.0450	34
04/13/1999	6884159	0.911	24.20	0.0315	24
04/19/1999	6884151	0.911	24.20	0.0137	10
04/25/1999	6884143	0.912	24.20	0.0028	2
05/01/1999	6884135	0.942	24.22	0.0031	2
05/07/1999	6884127	0.961	24.20	0.0048	3
05/13/1999	6884119	0.956	24.20	0.0297	21
05/19/1999	6884111	0.952	24.20	0.0205	15
05/25/1999	6884103	0.934	24.20	0.0102	8
05/31/1999	6907095	0.953	24.20	0.0211	15
06/06/1999	6907087	0.932	24.20	0.0053	4
06/12/1999	6907079	0.935	24.20	0.0119	9
06/18/1999	6907071	0.922	24.20	0.0184	14
06/24/1999	6907063	0.909	24.20	0.0186	14
06/30/1999	6907055	0.908	24.20	0.0134	10
07/06/1999	6907047	0.928	24.18	0.0188	14
07/12/1999	6907039	0.917	24.20	0.0213	16
07/18/1999	6907031	0.907	24.20	0.0106	8
07/24/1999	6907023	0.900	24.18	0.0117	9
07/30/1999	6907015	0.921	24.20	0.0087	7

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-12 (continued). Suspended Particulates (PM₁₀) Data at Station AIR-M-9 During 1999

Sample Date	Filter Number	Flow Rate (m ³ /min) ^a	Sample Time (hours)	Weight (g/F) ^b	Concentration (µg/m ³)
08/05/1999	6907007	0.923	24.20	0.0097	7
08/11/1999	6908199	0.907	24.18	0.0061	5
08/17/1999	6908192	0.924	24.20	0.0064	5
08/23/1999	6908185	0.902	24.28	0.0104	8
08/29/1999	6908178	0.903	24.20	0.0053	4
09/04/1999	6908171	0.924	24.18	0.0125	9
09/10/1999	6908164	0.920	24.20	0.0081	6
09/28/1999	6908150	0.990	25.00	0.0051	3
10/10/1999	6908131	0.971	24.21	-0.0005	<1
10/16/1999	6908125	0.990	24.21	0.0344	24
10/22/1999	6908120	0.979	24.22	0.0148	10
10/28/1999	6908113	0.976	24.22	0.0209	15
11/03/1999	6908106	0.983	24.20	0.0136	10
11/09/1999	7045799	0.984	24.20	0.0098	7
11/15/1999	7045792	0.981	24.20	0.0156	11
11/21/1999	7045785	0.990	24.21	0.0051	4
11/27/1999	7045778	0.988	24.20	0.0044	3
12/03/1999	7045771	0.998	24.21	0.0187	13
12/09/1999	7045764	0.977	24.20	0.0021	1
12/15/1999	7045756	0.983	24.22	0.0047	3
12/21/1999	7045749	0.988	24.22	0.0023	2
12/27/1999	7045741	0.983	24.22	0.0089	6

^a Volume values of flow have been corrected to EPA standard temperature and pressure.

^b Grams per filter.

Table A-13. Radioparticulate Air Sample Results for 1999

Sample Location	Sample Date	Flow Rate (L/h)	Sample Time (hours)	Radium-226		Thorium-230			Uranium			Polonium-210	
				(pCi/F)	(pCi/mL)	(pCi/F)	(pCi/mL)	(pg/mL)	(µg/F)	(µg/m³)	(pCi/mL)	(pCi/F)	(pCi/mL)
R-M-1-AIR	01/1999	3600	960.0	1.84	5.3E-16	0.46	1.3E-16	6.7E-09	0.84	2.4E-04	1.6E-16	4.65	1.3E-15
R-M-1-AIR	05/1999	3600	720.0	1.04	4.0E-16	0.42	1.6E-16	8.2E-09	~0.85	~3.3E-04	~2.3E-16	2.95	1.1E-15
R-M-1-AIR	06/1999	3600	696.0	0.90	3.6E-16	0.77	3.1E-16	1.6E-08	1.5	6.0E-04	4.1E-16	18.44	7.4E-15
R-M-1-AIR	07/1999	3600	720.0	0.66	2.5E-16	0.47	1.8E-16	9.3E-09	~0.83	~3.2E-04	~2.2E-16	12.55	4.8E-15
R-M-1-AIR	08/1999	3600	720.0	0.97	3.7E-16	0.48	1.9E-16	9.8E-09	~0.95	~3.7E-04	~2.5E-16	11.13	4.3E-15
R-M-1-AIR	09/1999	3600	696.0	2.26	9.0E-16	0.41	1.6E-16	8.2E-09	~0.88	~3.5E-04	~2.4E-16	15.71	6.3E-15
R-M-1-AIR	10/1999	3600	744.0	2.02	7.5E-16	0.58	2.2E-16	1.1E-08	1.1	4.1E-04	2.8E-16	19.77	7.4E-15
R-M-1-AIR	11/1999	3600	1416.0	2.79	5.5E-16	0.61	1.2E-16	6.2E-09	1.6	3.1E-04	2.1E-16	19.87	3.9E-15
R-M-2-AIR	01/1999	3600	960.0	2.38	6.9E-16	0.56	1.6E-16	8.2E-09	0.92	2.7E-04	1.9E-16	5.57	1.6E-15
R-M-2-AIR	05/1999	3600	720.0	1.65	6.4E-16	0.55	2.1E-16	1.1E-08	1.5	5.8E-04	4.0E-16	8.01	3.1E-15
R-M-2-AIR	06/1999	3600	696.0	0.91	3.6E-16	0.60	2.4E-16	1.2E-08	1.6	6.4E-04	4.4E-16	13.58	5.4E-15
R-M-2-AIR	07/1999	3600	720.0	0.90	3.5E-16	0.55	2.1E-16	1.1E-08	1.2	4.6E-04	3.2E-16	8.34	3.2E-15
R-M-2-AIR	08/1999	3600	720.0	0.90	3.5E-16	0.42	1.6E-16	8.2E-09	~0.87	~3.4E-04	~2.3E-16	7.95	3.1E-15
R-M-2-AIR	09/1999	3600	696.0	2.35	9.4E-16	0.46	1.8E-16	9.3E-09	1.0	4.0E-04	2.7E-16	15.35	6.1E-15
R-M-2-AIR	10/1999	3600	744.0	1.80	6.7E-16	0.47	1.8E-16	9.3E-09	1.1	4.1E-04	2.8E-16	12.48	4.7E-15
R-M-2-AIR	11/1999	3600	1416.0	2.2	4.3E-16	0.79	1.6E-16	8.2E-09	1.8	3.5E-04	2.4E-16	16.83	3.3E-15
R-M-3-AIR	01/1999	3600	960.0	2.89	8.4E-16	0.90	2.6E-16	1.3E-08	1.1	3.2E-04	2.2E-16	8.11	2.3E-15
R-M-3-AIR	05/1999	3600	720.0	1.72	6.6E-16	0.76	2.9E-16	1.5E-08	1.4	5.4E-04	3.7E-16	8.35	3.2E-15
R-M-3-AIR	06/1999	3600	696.0	0.84	3.4E-16	0.62	2.5E-16	1.3E-08	1.2	4.8E-04	3.3E-16	14.60	5.8E-15
R-M-3-AIR	07/1999	3600	720.0	0.69	2.7E-16	0.50	1.9E-16	9.8E-09	1.2	4.6E-04	3.2E-16	8.08	3.1E-15
R-M-3-AIR	08/1999	3600	720.0	1.11	4.3E-16	0.51	2.0E-16	1.0E-08	1.2	4.6E-04	3.2E-16	10.50	4.1E-15
R-M-3-AIR	09/1999	3600	696.0	1.80	7.2E-16	0.38	1.5E-16	7.7E-09	~0.91	~3.6E-04	~2.5E-16	15.29	6.1E-15
R-M-3-AIR	10/1999	3600	744.0	1.61	6.0E-16	0.38	1.4E-16	7.2E-09	~0.99	~3.7E-04	~2.5E-16	17.00	6.3E-15
R-M-3-AIR	11/1999	3600	1416.0	2.61	5.1E-16	0.62	1.2E-16	6.2E-09	1.7	3.3E-04	2.3E-16	15.34	3.0E-15
R-M-5-AIR	01/1999	3600	960.0	2.24	6.5E-16	0.52	1.5E-16	7.7E-09	0.94	2.7E-04	1.9E-16	8.52	2.5E-15
R-M-5-AIR	05/1999	3600	720.0	1.75	6.8E-16	0.39	1.5E-16	7.7E-09	1.2	4.6E-04	3.2E-16	7.06	2.7E-15
R-M-5-AIR	06/1999	3600	696.0	0.78	3.1E-16	0.43	1.7E-16	8.8E-09	1.1	4.4E-04	3.0E-16	14.77	5.9E-15
R-M-5-AIR	07/1999	3600	720.0	0.40	1.5E-16	0.34	1.3E-16	6.7E-09	~0.74	~2.9E-04	~2.0E-16	9.35	3.6E-15
R-M-5-AIR	08/1999	3600	720.0	1.33	5.1E-16	0.31	1.2E-16	6.2E-09	~0.68	~2.6E-04	~1.8E-16	3.54	1.4E-15
R-M-5-AIR	09/1999	3600	696.0	1.28	5.1E-16	0.30	1.2E-16	6.2E-09	~0.68	~2.7E-04	~1.9E-16	8.40	3.4E-15
R-M-5-AIR	10/1999	3600	744.0	2.04	7.6E-16	0.52	1.9E-16	9.8E-09	1.1	4.1E-04	2.8E-16	12.39	4.6E-15
R-M-5-AIR	11/1999	3600	1416.0	2.41	4.7E-16	0.67	1.3E-16	6.7E-09	1.5	2.9E-04	2.0E-16	15.93	3.1E-15

^a A "~" indicates an approximate value (the value was outside the limits for which the instrument was calibrated).

^b L/h = liters per hour.

^c pCi/F = picocuries per filter.

^d pg/mL = picograms per milliliter. The conversion of thorium-230 concentrations between microcuries and picograms assumed equilibrium and an activity of 0.0194 µCi/µg.

^e µg/F = micrograms per filter.

^f The conversion of uranium concentrations between microcuries per milliliter and micrograms per cubic meter assumed equilibrium and an activity of 0.687 pCi/µg.

Table A-13 (continued). Radioparticulate Air Sample Results for 1999

Sample Location	Sample Date	Flow Rate (L/h)	Sample Time (hours)	Radium-226		Thorium-230			Uranium			Polonium-210	
				(pCi/F)	(µCi/mL)	(pCi/F)	(µCi/mL)	(pg/mL)	(µg/F)	(µg/m ³)	(µCi/mL)	(pCi/F)	(µCi/mL)
R-M-6-AIR	01/1999	3600	960.0	2.05	5.9E-16	0.32	9.3E-17	4.8E-09	0.90	2.6E-04	1.8E-16	6.98	2.0E-15
R-M-6-AIR	05/1999	3600	720.0	1.30	5.0E-16	0.42	1.6E-16	8.2E-09	1.2	4.6E-04	3.2E-16	7.97	3.1E-15
R-M-6-AIR	06/1999	3600	696.0	0.34	1.4E-16	0.25	1.0E-16	5.2E-09	~0.57	~2.3E-04	~1.6E-16	8.05	3.2E-15
R-M-6-AIR	07/1999	3600	720.0	0.48	1.9E-16	0.21	8.1E-17	4.2E-09	~0.73	~2.8E-04	~1.9E-16	6.95	2.7E-15
R-M-6-AIR	08/1999	3600	720.0	1.75	6.8E-16	0.46	1.8E-16	9.3E-09	~0.86	~3.3E-04	~2.3E-16	8.04	3.1E-15
R-M-6-AIR	09/1999	3600	696.0	1.72	6.9E-16	0.41	1.6E-16	8.2E-09	~0.65	~2.6E-04	~1.8E-16	9.75	3.9E-15
R-M-6-AIR	10/1999	3600	744.0	2.26	8.4E-16	0.42	1.6E-16	8.2E-09	~0.93	~3.5E-04	~2.4E-16	14.23	5.3E-15
R-M-6-AIR	11/1999	3600	1416.0	1.85	3.6E-16	0.54	1.1E-16	5.7E-09	1.3	2.6E-04	1.8E-16	15.54	3.0E-15
R-M-7-AIR	01/1999	3600	960.0	4.03	1.2E-15	0.42	1.2E-16	6.2E-09	~0.79	~2.3E-04	~1.6E-16	9.55	2.8E-15
R-M-7-AIR	05/1999	3600	720.0	1.33	5.1E-16	0.43	1.7E-16	8.8E-09	~0.95	~3.7E-04	~2.5E-16	8.12	3.1E-15
R-M-7-AIR	06/1999	3600	696.0	0.65	2.6E-16	0.27	1.1E-16	5.7E-09	~0.87	~3.5E-04	~2.4E-16	10.29	4.1E-15
R-M-7-AIR	07/1999	3600	720.0	0.38	1.5E-16	0.22	8.5E-17	4.4E-09	~0.64	~2.5E-04	~1.7E-16	9.56	3.7E-15
R-M-7-AIR	08/1999	3600	720.0	0.89	3.4E-16	0.46	1.8E-16	9.3E-09	~0.66	~2.5E-04	~1.7E-16	8.53	3.3E-15
R-M-7-AIR	09/1999	3600	696.0	2.09	8.3E-16	0.45	1.8E-16	9.3E-09	~0.75	~3.0E-04	~2.1E-16	15.21	6.1E-15
R-M-7-AIR	10/1999	3600	744.0	1.81	6.8E-16	0.27	1.0E-16	5.2E-09	~0.74	~2.8E-04	~1.9E-16	14.11	5.3E-15
R-M-7-AIR	11/1999	3600	1416.0	2.69	5.3E-16	0.63	1.2E-16	6.2E-09	1.3	2.6E-04	1.8E-16	16.70	3.3E-15
R-M-8-AIR	01/1999	3600	960.0	2.53	7.3E-16	0.69	2.0E-16	1.0E-08	0.99	2.9E-04	2.0E-16	8.58	2.5E-15
R-M-8-AIR	05/1999	3600	720.0	1.77	6.8E-16	0.35	1.4E-16	7.2E-09	1.1	4.2E-04	2.9E-16	7.39	2.9E-15
R-M-8-AIR	06/1999	3600	696.0	0.75	3.0E-16	0.41	1.6E-16	8.2E-09	1.0	4.0E-04	2.7E-16	12.50	5.0E-15
R-M-8-AIR	07/1999	3600	720.0	<0.35	<1.4E-16	0.16	6.2E-17	3.2E-09	~0.77	~3.0E-04	~2.1E-16	8.55	3.3E-15
R-M-8-AIR	08/1999	3600	720.0	1.09	4.2E-16	0.36	1.4E-16	7.2E-09	~0.87	~3.4E-04	~2.3E-16	8.80	3.4E-15
R-M-8-AIR	09/1999	3600	696.0	2.14	8.5E-16	0.38	1.5E-16	7.7E-09	~0.97	~3.9E-04	~2.7E-16	13.10	5.2E-15
R-M-8-AIR	10/1999	3600	744.0	2.42	9.0E-16	0.40	1.5E-16	7.7E-09	1.1	4.1E-04	2.8E-16	16.13	6.0E-15
R-M-8-AIR	11/1999	3600	1416.0	3.01	5.9E-16	0.72	1.4E-16	7.2E-09	1.9	3.7E-04	2.5E-16	18.91	3.7E-15
R-M-8A-AIR	01/1999	3600	960.0	2.99	8.7E-16	0.66	1.9E-16	9.8E-09	0.90	2.6E-04	1.8E-16	7.13	2.1E-15
R-M-8A-AIR	05/1999	3600	720.0	1.48	5.7E-16	0.43	1.7E-16	8.8E-09	~1.0	~3.9E-04	~2.7E-16	8.02	3.1E-15
R-M-8A-AIR	06/1999	3600	696.0	0.55	2.2E-16	0.51	2.0E-16	1.0E-08	~0.95	~3.8E-04	~2.6E-16	10.62	4.2E-15
R-M-8A-AIR	07/1999	3600	720.0	0.40	1.5E-16	0.28	1.1E-16	5.7E-09	~0.76	~2.9E-04	~2.0E-16	7.84	3.0E-15
R-M-8A-AIR	08/1999	3600	720.0	1.04	4.0E-16	0.46	1.8E-16	9.3E-09	~0.97	~3.7E-04	~2.5E-16	6.85	2.6E-15
R-M-8A-AIR	09/1999	3600	696.0	2.19	8.7E-16	0.61	2.4E-16	1.2E-08	~0.97	~3.9E-04	~2.7E-16	14.67	5.9E-15
R-M-8A-AIR	10/1999	3600	744.0	2.19	8.2E-16	0.40	1.5E-16	7.7E-09	1.0	3.7E-04	2.5E-16	15.97	6.0E-15
R-M-8A-AIR	11/1999	3600	1416.0	2.89	5.7E-16	0.79	1.5E-16	7.7E-09	1.6	3.1E-04	2.1E-16	15.74	3.1E-15

* A "-" indicates an approximate value (the value was outside the limits for which the instrument was calibrated).

^b L/h = liters per hour.

^c pCi/F = picocuries per filter.

^d pg/mL = picograms per milliliter. The conversion of thorium-230 concentrations between microcuries and picograms assumed equilibrium and an activity of 0.0194 µCi/µg.

^e µg/F = micrograms per filter.

^f The conversion of uranium concentrations between microcuries per milliliter and micrograms per cubic meter assumed equilibrium and an activity of 0.687 pCi/µg.

Table A-13 (continued). Radioparticulate Air Sample Results for 1999

Sample Location	Sample Date	Flow Rate (L/h)	Sample Time (hours)	Radium-226		Thorium-230			Uranium			Polonium-210	
				(pCi/F)	(μ Ci/mL)	(pCi/F)	(μ Ci/mL)	(pg/mL)	(μ g/F)	(μ g/m ³)	(μ Ci/mL)	(pCi/F)	(μ Ci/mL)
R-M-9-AIR	01/1999	3600	960.0	2.26	6.5E-16	0.32	9.4E-17	4.8E-09	~0.78	~2.3E-04	~1.6E-16	5.91	1.7E-15
R-M-9-AIR	05/1999	3600	720.0	1.44	5.6E-16	0.47	1.8E-16	9.3E-09	~0.96	~3.7E-04	~2.5E-16	7.81	3.0E-15
R-M-9-AIR	06/1999	3600	696.0	0.59	2.4E-16	0.43	1.7E-16	8.8E-09	~0.89	~3.6E-04	~2.5E-16	11.72	4.7E-15
R-M-9-AIR	07/1999	3600	720.0	0.29	1.1E-16	0.29	1.1E-16	5.7E-09	~0.66	~2.5E-04	~1.7E-16	8.19	3.2E-15
R-M-9-AIR	08/1999	3600	720.0	0.88	3.4E-16	0.33	1.3E-16	6.7E-09	~0.69	~2.7E-04	~1.9E-16	6.25	2.4E-15
R-M-9-AIR	09/1999	3600	696.0	1.47	5.9E-16	0.45	1.8E-16	9.3E-09	~0.81	~3.2E-04	~2.2E-16	12.71	5.1E-15
R-M-9-AIR	10/1999	3600	744.0	1.76	6.6E-16	0.36	1.3E-16	6.7E-09	~0.78	~2.9E-04	~2.0E-16	16.68	6.2E-15
R-M-9-AIR	11/1999	3600	1416.0	2.66	5.2E-16	0.42	8.3E-17	4.3E-09	1.1	2.2E-04	1.5E-16	15.42	3.0E-15

* A "~" indicates an approximate value (the value was outside the limits for which the instrument was calibrated).

^b L/h = liters per hour.

^c pCi/F = picocuries per filter.

^d pg/mL = picograms per milliliter. The conversion of thorium-230 concentrations between microcuries and picograms assumed equilibrium and an activity of 0.0194 μ Ci/ μ g.

^e μ g/F = micrograms per filter.

^f The conversion of uranium concentrations between microcuries per milliliter and micrograms per cubic meter assumed equilibrium and an activity of 0.687 pCi/ μ g.

Table A-14. Environmental Radiation Exposure Data for Monticello, First Quarter 1999

Report Number	Report Date	Date Installed	Date Removed	Days Exposed
8052-32	05/12/1999	01/15/1999	04/06/1999	81

TLD ID	Field Location	Exposure for Quarter (mrem)	Daily Exposure (mrem)	Approximate Annual Exposure (mrem)
GJ-39	R-M-1-TLD	21.4	0.3	96
GJ-33	R-M-2-TLD	21.3	0.3	96
GJ-22	R-M-3-TLD	23.2	0.3	105
GJ-23	R-M-3-TLD ^a	23.7	0.3	107
GJ-37	R-M-4-TLD	22.1	0.3	100
GJ-38	R-M-5-TLD	21.7	0.3	98
GJ-19	R-M-6-TLD	19.5	0.2	88
GJ-3	R-M-7-TLD	18.4	0.2	83
GJ-18	R-M-7-TLD ^a	18.6	0.2	84
GJ-24	R-M-8-TLD	22.8	0.3	103
SP-1	R-M-9-TLD	19.9	0.2	90
SP-2	R-M-9-TLD ^a	20.6	0.3	93
GJ-29	TLD-M-03	19.5	0.2	88
GJ-34	TLD-M-03 ^a	21.6	0.3	97
GJ-12	TLD-M-06	20.6	0.3	93
GJ-25	TLD-M-06 ^a	23.3	0.3	105
GJ-26	TLD-M-06 ^a	24.1	0.3	109
GJ-36	TLD-M-07	26.0	0.3	117
GJ-40	TLD-M-08	18.7	0.2	84
GJ-17	TLD-M-09	22.1	0.3	100
GJ-31	TLD-M-16	20.9	0.3	94
GJ-35	TLD-M-18	22.1	0.3	100
GJ-10	TLD-M-20	21.3	0.3	96
GJ-2	TLD-M-22	22.3	0.3	100
GJ-27	TLD-M-24	22.5	0.3	101
GJ-6	TLD-M-26	24.5	0.3	110
GJ-14	TLD-M-28	21.8	0.3	98
GJ-1	TLD-M-30	21.0	0.3	95
GJ-13	TLD-M-32	19.4	0.2	87
GJ-8	TLD-M-34	23.6	0.3	106
GJ-11	TLD-M-37	21.2	0.3	96
GJ-7	TLD-M-38	25.3	0.3	114
GJ-32	TLD-M-39	20.6	0.3	93
GJ-4	TLD-M-41	24.9	0.3	112
GJ-28	TLD-M-42	21.4	0.3	96
GJ-20	TLD-M-43	27.5	0.3	124
GJ-9	TLD-M-44	27.2	0.3	123
GJ-15	TLD-M-45	16.7	0.2	75
GJ-21	TLD-M-46	26.2	0.3	118
GJ-16	TLD-M-47	20.6	0.3	93
GJ-5	TLD-M-48	24.5	0.3	110

^a Duplicate sample.

Table A-15. Environmental Radiation Exposure Data for Monticello, Second Quarter 1999

Report Number	Report Date	Date Installed	Date Removed	Days Exposed
8052-34	08/31/1999	04/06/1999	07/21/1999	106

TLD ID	Field Location	Exposure for Quarter (mrem)	Daily Exposure (mrem)	Approximate Annual Exposure (mrem)
GJ-21	R-M-1-TLD	35.2	0.3	121
GJ-36	R-M-1-TLD ^a	31.0	0.3	107
GJ-26	R-M-2-TLD	33.9	0.3	117
GJ-34	R-M-2-TLD ^a	32.3	0.3	111
GJ-8	R-M-3-TLD	33.9	0.3	117
GJ-12	R-M-3-TLD ^a	30.1	0.3	104
GJ-13	R-M-4-TLD	33.9	0.3	117
GJ-1	R-M-5-TLD	31.7	0.3	109
GJ-16	R-M-5-TLD ^a	30.0	0.3	103
GJ-20	R-M-6-TLD	27.0	0.3	93
GJ-10	R-M-7-TLD	29.1	0.3	100
GJ-18	R-M-7-TLD ^a	28.2	0.3	97
GJ-24	R-M-8-TLD	35.3	0.3	122
GJ-22	R-M-9-TLD	33.5	0.3	115
GJ-31	R-M-9-TLD ^a	30.5	0.3	105
GJ-38	TLD-M-03	32.1	0.3	111
GJ-11	TLD-M-06	32.1	0.3	111
GJ-28	TLD-M-06 ^a	33.5	0.3	115
GJ-40	TLD-M-07	36.8	0.3	127
GJ-23	TLD-M-08	32.5	0.3	112
GJ-7	TLD-M-09	34.9	0.3	120
GJ-35	TLD-M-09 ^a	37.0	0.3	127
GJ-19	TLD-M-16	35.1	0.3	121
GJ-25	TLD-M-18	33.5	0.3	115
GJ-32	TLD-M-20	32.0	0.3	110
GJ-9	TLD-M-22	34.1	0.3	117
GJ-29	TLD-M-24	33.4	0.3	115
GJ-37	TLD-M-26	33.1	0.3	114
GJ-33	TLD-M-28	34.6	0.3	119
GJ-39	TLD-M-30	32.0	0.3	110
SP-2	TLD-M-32	32.0	0.3	110
GJ-2	TLD-M-34	34.8	0.3	120
GJ-15	TLD-M-37	31.9	0.3	110
GJ-30	TLD-M-38	33.6	0.3	116
GJ-14	TLD-M-39	32.0	0.3	110
GJ-27	TLD-M-39 ^a	32.3	0.3	111
GJ-4	TLD-M-41	34.4	0.3	118
GJ-5	TLD-M-42	37.9	0.4	131
SP-1	TLD-M-45	35.1	0.3	121
GJ-6	TLD-M-46	38.2	0.4	132
GJ-17	TLD-M-47	35.6	0.3	123
GJ-3	TLD-M-48	33.4	0.3	115

^a Duplicate sample.

Table A-16. Environmental Radiation Exposure Data for Monticello, Third Quarter 1999

Report Number	Report Date	Date Installed	Date Removed	Days Exposed
8052-36	11/24/1999	07/21/1999	10/27/1999	98

TLD ID	Field Location	Exposure for Quarter (mrem)	Daily Exposure (mrem)	Approximate Annual Exposure (mrem)
GJ-18	R-M-1-TLD	31.1	0.3	116
GJ-36	R-M-2-TLD	28.8	0.3	107
GJ-9	R-M-3-TLD	28.4	0.3	106
GJ-15	R-M-3-TLD *	22.5	0.2	84
GJ-2	R-M-4-TLD	31.5	0.3	117
SP-1	R-M-5-TLD	26.1	0.3	97
SP-2	R-M-5-TLD	26.3	0.3	98
GJ-26	R-M-6-TLD	26.4	0.3	98
GJ-33	R-M-6-TLD *	26.3	0.3	98
GJ-20	R-M-7-TLD	25.4	0.3	95
GJ-21	R-M-7-TLD *	25.0	0.3	93
GJ-27	R-M-8-TLD	28.0	0.3	104
GJ-10	R-M-9-TLD	27.3	0.3	102
GJ-38	R-M-9-TLD *	27.3	0.3	102
GJ-4	TLD-M-03	29.9	0.3	111
GJ-31	TLD-M-03 *	26.5	0.3	99
GJ-8	TLD-M-06	29.2	0.3	109
GJ-13	TLD-M-06 *	25.5	0.3	95
GJ-12	TLD-M-07	27.7	0.3	103
GJ-22	TLD-M-08	27.3	0.3	102
GJ-29	TLD-M-09	25.7	0.3	96
GJ-40	TLD-M-16	29.0	0.3	108
GJ-5	TLD-M-18	36.2	0.4	135
GJ-39	TLD-M-20	27.6	0.3	103
GJ-24	TLD-M-22	29.7	0.3	111
GJ-32	TLD-M-24	26.9	0.3	100
GJ-14	TLD-M-26	28.0	0.3	104
GJ-17	TLD-M-28	30.6	0.3	114
GJ-25	TLD-M-30	30.1	0.3	112
GJ-16	TLD-M-32	26.9	0.3	100
GJ-28	TLD-M-34	28.0	0.3	104
GJ-7	TLD-M-37	33.0	0.3	123
GJ-35	TLD-M-38	31.5	0.3	117
GJ-3	TLD-M-39	30.1	0.3	112
GJ-23	TLD-M-41	30.0	0.3	112
GJ-6	TLD-M-42	32.8	0.3	122
GJ-30	TLD-M-43	26.1	0.3	97
GJ-11	TLD-M-45	27.7	0.3	103
GJ-37	TLD-M-46	28.5	0.3	106
GJ-1	TLD-M-47	28.8	0.3	107
GJ-34	TLD-M-48	27.8	0.3	104

* Duplicate sample.

Table A-17. Environmental Radiation Exposure Data for Monticello, Fourth Quarter 1999

Report Number	Report Date	Date Installed	Date Removed	Days Exposed
8052-38	02/27/2000	10/27/1999	01/25/2000	90

TLD ID	Field Location	Exposure for Quarter (mrem)	Daily Exposure (mrem)	Approximate Annual Exposure (mrem)
GJ-30	R-M-1-TLD	38.8	0.4	157
GJ-17	R-M-2-TLD	39.7	0.4	161
GJ-7	R-M-3-TLD	40.9	0.5	166
GJ-11	R-M-3-TLD ^a	37.8	0.4	153
GJ-27	R-M-4-TLD	41.9	0.5	170
GJ-22	R-M-5-TLD	40.2	0.4	163
GJ-26	R-M-6-TLD	39.9	0.4	162
GJ-9	R-M-7-TLD	37.3	0.4	151
GJ-18	R-M-7-TLD ^a	35.1	0.4	142
GJ-1	R-M-8-TLD	35.9	0.4	146
GJ-29	R-M-9-TLD	36.0	0.4	146
GJ-31	R-M-9-TLD ^a	35.6	0.4	144
GJ-16	TLD-M-03	34.7	0.4	141
GJ-20	TLD-M-03 ^a	34.6	0.4	140
SP-1	TLD-M-06	39.5	0.4	160
SP-2	TLD-M-06 ^a	40.3	0.4	163
GJ-6	TLD-M-07	42.7	0.5	173
GJ-8	TLD-M-08	38.5	0.4	156
GJ-24	TLD-M-09	40.5	0.5	164
GJ-19	TLD-M-16	40.2	0.4	163
GJ-33	TLD-M-18	40.7	0.5	165
GJ-38	TLD-M-20	40.2	0.4	163
GJ-35	TLD-M-22	41.8	0.5	170
GJ-13	TLD-M-24	39.4	0.4	160
GJ-14	TLD-M-26	39.4	0.4	160
GJ-15	TLD-M-28	37.8	0.4	153
GJ-21	TLD-M-30	40.5	0.5	164
GJ-2	TLD-M-32	39.7	0.4	161
GJ-4	TLD-M-34	40.1	0.4	163
GJ-3	TLD-M-37	39.8	0.4	161
GJ-28	TLD-M-38	40.6	0.5	165
GJ-34	TLD-M-39	39.8	0.4	161
GJ-10	TLD-M-41	39.3	0.4	159
GJ-37	TLD-M-42	34.7	0.4	141
GJ-40	TLD-M-45	37.5	0.4	152
GJ-36	TLD-M-46	37.3	0.4	151
GJ-12	TLD-M-47	37.3	0.4	151
GJ-39	TLD-M-47 ^a	37.6	0.4	152
GJ-23	TLD-M-48	41.9	0.5	170
GJ-25	TLD-M-48 ^a	38.9	0.4	158

^a Duplicate sample.

Table A-18. Surface-Water Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample	Ticket	Sample	ALK	Alky-HCO ₃	As	As ^b	Bromide ^b	Ca	Ca ^b	Chloride	Co	Co ^b	Cu
Location	Number	Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SW92-03	NDE 815,NDG 472	10/13/1999	188	—	<0.0004	—	—	176	—	6.36	<0.0002	—	0.00087
SW92-06	NDF-762	01/27/1999	184	—	~0.00050	—	—	260	—	38.6	<0.0010	—	~0.0018
	NDE-732	04/12/1999	153	~88	<0.0010	—	—	223	—	16.1	<0.0010	—	<0.0010
	NBC-995,NDE-725	07/27/1999	144	—	~0.0012	~0.0016	~0.124	190	199	25.5	<0.00020	~0.00053	~0.00044
	NDE 810,NDE 811	10/12/1999	164	—	0.00078	<0.00044	—	224	186	17.8	0.00034	0.00084	0.0013
SW92-07	NDE-736	04/13/1999	222	~118	<0.0010	—	—	246	—	31.3	<0.0010	—	<0.0010
	NDE 806	10/12/1999	208	—	0.0011	—	—	191	—	50.4	0.0003	—	0.0017
SW92-08	NDE-733	04/13/1999	206	~111	<0.0010	—	—	216	—	31.6	<0.0010	—	<0.0010
	NDE 803	10/12/1999	200	—	0.0017	—	—	189	—	50.1	0.00033	—	0.0024
SW92-09	NDE-734	04/13/1999	146	~112	<0.0010	—	—	210	—	35.7	<0.0010	—	<0.0010
	NDE 802	10/12/1999	206	—	0.00079	—	—	191	—	51.9	0.0004	—	0.002
SW94-01	NDE-735	04/13/1999	208	~118	<0.0010	—	—	206	—	38.8	<0.0010	—	~0.0010
	NDE 801	10/12/1999	213	—	0.0012	—	—	191	—	50.6	0.00023	—	0.0019
SW99-01	NDF-755	01/26/1999	192	—	<0.00010	—	—	246	—	9.76	<0.0010	—	<0.0010
	NDE-739,NDE-740	04/13/1999	179	~100	<0.0010	<0.0011	—	184	191	7.96	<0.0010	<0.0011	<0.0010
	NBC-996,NDE-747	07/27/1999	126	—	<0.0010	<0.0011	~0.0854	164	173	6.26	<0.00020	<0.00022	~0.00020
	NDE 812,NDE 813	10/12/1999	184	—	<0.0004	<0.00044	—	173	130	6.37	<0.0002	0.00027	0.00085
SW99-02	NDF-756	01/26/1999	266	—	<0.00010	—	—	330	—	26.5	<0.0010	—	~0.0010
	NDE-741	04/13/1999	274	~150	<0.0010	—	—	272	—	22.8	<0.0010	—	<0.0010
	NDE 814	10/12/1999	286	—	<0.0004	—	—	272	—	23.8	0.00062	—	0.0014
SW99-02A	NDE-750	07/27/1999	376	—	<0.0010	—	0.215	210	—	72.2	<0.00020	—	<0.00020
SW99-03	NDF-757	01/26/1999	229	—	~0.00045	—	—	178	—	470	<0.0010	—	~0.0060
	NDE-742	04/13/1999	183	~100	<0.0012	—	—	114	—	342	<0.0010	—	~0.0048
	NDE-748	07/27/1999	60	—	~0.0013	—	0.212	73.2	—	122	~0.00045	—	~0.0046
SW99-04	NDE-737,NDE-738	04/13/1999	197	~112	<0.0010	<0.0011	—	219	230	30.3	<0.0010	~0.0018	<0.0010
	NBC-994,NDE-722	07/27/1999	78	—	~0.0012	~0.0020	~0.176	213	221	36.1	<0.00020	~0.00028	~0.00046
	NDE 804,NDE 805	10/12/1999	206	—	0.0013	0.00099	—	190	208	48.3	0.00032	0.0006	0.0017
Sorenson	NDF-751	01/25/1999	198	—	~0.00039	—	—	269	—	44.5	<0.0010	—	~0.0017
	NDF-752	01/25/1999	—	—	~0.00053	—	—	265	—	45.1	<0.0010	—	~0.0019
	NDE-729	04/12/1999	177	~100	<0.0010	—	—	240	—	31.7	<0.0010	—	<0.0010
	NDE-730	04/12/1999	—	~100	<0.0010	—	—	238	—	31.9	<0.0010	—	<0.0010
	NDE-723	07/27/1999	204	—	<0.0010	—	~0.166	245	—	33.1	~0.00048	—	~0.00040
	NDE-724	07/27/1999	—	—	~0.0011	—	~0.168	246	—	33.6	<0.00020	—	<0.00020
	NDE 807	10/12/1999	234	—	0.00085	—	—	255	—	32.0	0.00024	—	0.0016
	NDE 808	10/12/1999	—	—	0.00055	—	—	254	—	31.7	0.0003	—	0.0016
W-4	NDF-766	01/28/1999	178	—	~0.00030	—	—	254	—	26.7	<0.0010	—	~0.0020
	NDE-726,NDE-728	04/12/1999	182	~113	<0.0010	<0.0011	—	249	266	12.7	<0.0010	<0.0011	<0.0010

^a A "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit). A "~" indicates an estimated value. An "R" indicates that the result was determined using EPA Method 00-02-01; a method for determining gross alpha (and gross beta) in drinking water using coprecipitation.

^b Sample was unfiltered.

^c Results determined using EPA Method 00-02-01; a method for determining gross alpha (and gross beta) in drinking water using coprecipitation.

^d Estimated

Table A-18. Surface-Water Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample	Ticket	Sample	Cu ^b	EC ^b	Fe	Fe ^b	Fluoride	Gross Alpha	Gross Alpha ^b	Gross Alpha ^c	Gross Beta
Location	Number	Date	(mg/L)	(µmhos/cm)	(mg/L)	(mg/L)	(mg/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)
SW92-03	NDE 815,NDG 472	10/13/1999	--	1082	<0.009	--	0.207	<8.9 ^d	--	2.38	<8.96
SW92-06	NDF-762	01/27/1999	--	1726	--	--	0.213	21.79	--	--	<11.44
	NDE-732	04/12/1999	--	1568	<0.0050	--	~0.158	~23.10	--	--	11.87
	NBC-995,NDE-725	07/27/1999	~0.0012	1310	<0.0059	0.126	~0.194	~21.53	~14.31	--	<10.63
	NDE 810,NDE 811	10/12/1999	<0.0007	1331	<0.009	0.329	0.253	~15.27	~21.25	--	<10.4
SW92-07	NDE-736	04/13/1999	--	1727	~0.0164	--	~0.185	~53.54	--	--	36.05
	NDE 806	10/12/1999	--	1411	<0.009	--	0.219	~33.04	--	--	19.42
SW92-08	NDE-733	04/13/1999	--	1600	<0.0050	--	~0.189	~71.63	--	--	31.06
	NDE 803	10/12/1999	--	1428	<0.0090	--	0.255	~31.85	--	--	25.18
SW92-09	NDE-734	04/13/1999	--	1615	<0.0050	--	~0.199	~63.80	--	--	33.00
	NDE 802	10/12/1999	--	1427	<0.0090	--	0.281	~26.51	--	--	24.59
SW94-01	NDE-735	04/13/1999	--	1528	<0.0050	--	0.211	~51.96	--	--	26.71
	NDE 801	10/12/1999	--	1435	<0.0090	--	0.214	~29.88	--	--	25.45
SW99-01	NDF-755	01/26/1999	--	1327	--	--	0.267	<9.83	--	--	<9.40
	NDE-739,NDE-740	04/13/1999	~0.0014	1164	<0.0050	<0.0050	0.354	<7.32 ^d	<9.35 ^d	--	<7.32
	NBC-996,NDE-747	07/27/1999	~0.00092	1023	<0.0059	0.277	~0.194	<6.81 ^d	<9.49 ^d	--	<7.46
	NDE 812,NDE 813	10/12/1999	<0.0007	1058	<0.009	<0.0090	0.204	<6.19 ^d	<7.91 ^d	--	<6.8
SW99-02	NDF-756	01/26/1999	--	1879	--	--	0.317	<13.74	--	--	13.90
	NDE-741	04/13/1999	--	1898	<0.0050	--	~0.174	<11.60 ^d	--	--	<11.74
	NDE 814	10/12/1999	--	1238	0.182	--	0.267	<10.37 ^d	--	--	17.21
SW99-02A	NDE-750	07/27/1999	--	1218	0.982	--	0.321	~12.52	--	--	14.93
SW99-03	NDF-757	01/26/1999	--	2300	--	--	0.544	80.18	--	--	68.75
	NDE-742	04/13/1999	--	1792	<0.0050	--	0.337	~21.18	--	--	14.92
	NDE-748	07/27/1999	--	1048	<0.0059	--	0.576	~15.01	--	--	12.70
SW99-04	NDE-737,NDE-738	04/13/1999	~0.0021	1595	<0.0050	0.313	0.210	~52.70	~51.52	--	28.02
	NBC-994,NDE-722	07/27/1999	~0.0013	1538	<0.0059	0.190	~0.193	~63.23	~48.78	--	31.32
	NDE 804,NDE 805	10/12/1999	<0.0007	1424	<0.0090	0.306	0.229	~33.95	~32.19	--	22.34
Sorenson	NDF-751	01/25/1999	--	1832	--	--	0.285	50.78	--	--	37.81
	NDF-752	01/25/1999	--	--	--	--	0.319	42.52	--	--	28.49
	NDE-729	04/12/1999	--	1660	<0.0050	--	~0.169	~59.00	--	--	31.46
	NDE-730	04/12/1999	--	--	<0.0050	--	~0.167	~69.38	--	--	27.26
	NDE-723	07/27/1999	--	1427	<0.0059	--	0.219	~62.85	--	--	24.36
	NDE-724	07/27/1999	--	--	<0.0059	--	0.236	~51.21	--	--	33.30
	NDE 807	10/12/1999	--	1444	<0.0090	--	0.313	~51.17	--	--	21.49
	NDE 808	10/12/1999	--	--	<0.009	--	0.309	~40.56	--	--	27.17
W-4	NDF-766	01/28/1999	--	1639	--	--	~0.165	15.45	--	--	<11.38
	NDE-726,NDE-728	04/12/1999	~0.0023	1520	<0.0050	0.695	~0.166	<11.49 ^d	<11.39 ^d	--	<12.87
^a A "<" indicates that the maximum concentration was below usable through data validation. All samples were filtered in the field unless otherwise noted.											
^b Sample was unfiltered.											
^c Results determined using EPA Method 00-02-01; a metho											
^d Estimated											

Table A-18. Surface-Water Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample	Ticket	Sample	Gross Beta ^b	Gross Beta ^c	K	K ^b	Mg	Mg ^b	Mn	Mn ^b	Mo	Mo ^b	Na	Na ^b
Location	Number	Date	(pCi/L)	(pCi/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SW92-03	NDE 815,NDG 472	10/13/1999	—	<1.91 ^d	2.37	—	25.8	—	0.0048	—	<0.0008	—	22.5	—
SW92-06	NDF-762	01/27/1999	—	—	~3.81	—	44.4	—	~0.135	—	~0.0128	—	74.0	—
	NDE-732	04/12/1999	—	—	~3.28	—	42.2	—	0.0873	—	~0.0059	—	48.8	—
	NBC-995,NDE-725	07/27/1999	<13.62	—	~4.00	~4.10	37.5	38.6	~0.0061	~0.0316	~0.0041	~0.0054	48.9	51.8
	NDE 810,NDE 811	10/12/1999	<12.48	—	3.55	2.88	44.7	35.9	0.0687	0.0506	0.0025	0.0031	42.4	33.7
SW92-07	NDE-736	04/13/1999	—	—	~3.45	—	49.5	—	0.171	—	~0.0092	—	76.9	—
	NDE 806	10/12/1999	—	—	5.25	—	38.9	—	0.0755	—	0.0056	—	74.5	—
SW92-08	NDE-733	04/13/1999	—	—	~3.53	—	44.7	—	0.276	—	0.0100	—	78.7	—
	NDE 803	10/12/1999	—	—	5.23	—	39.5	—	0.0978	—	0.0065	—	74.8	—
SW92-09	NDE-734	04/13/1999	—	—	~3.52	—	43.9	—	0.219	—	0.0102	—	78.2	—
	NDE 802	10/12/1999	—	—	5.17	—	39.6	—	0.0439	—	0.0065	—	75.5	—
SW94-01	NDE-735	04/13/1999	—	—	~3.69	—	43.8	—	0.204	—	~0.0094	—	86.0	—
	NDE 801	10/12/1999	—	—	5.21	—	39.7	—	0.0274	—	0.0063	—	77.3	—
SW99-01	NDF-755	01/26/1999	—	—	~2.54	—	34.7	—	~0.0224	—	~0.0027	—	30.1	—
	NDE-739,NDE-740	04/13/1999	<11.42	—	~2.04	~2.06	26.7	26.9	~0.0139	0.0186	~0.0025	~0.0027	26.0	27.1
	NBC-996,NDE-747	07/27/1999	<13.47	—	~2.08	~2.23	26.0	26.9	~0.0080	~0.0393	~0.0022	~0.0028	22.0	24.0
	NDE 812,NDE 813	10/12/1999	<10.55	—	2.53	1.91	26.1	19.0	0.0035	0.005	<0.0008	0.0014	21.9	16.6
SW99-02	NDF-756	01/26/1999	—	—	~3.47	—	53.6	—	~0.0038	—	~0.0025	—	51.2	—
	NDE-741	04/13/1999	—	—	~2.99	—	43.8	—	~0.0022	—	~0.0026	—	44.8	—
	NDE 814	10/12/1999	—	—	3.29	—	45.0	—	0.0329	—	0.0011	—	46.5	—
SW99-02A	NDE-750	07/27/1999	—	—	~2.17	—	42.2	—	1.130	—	<0.00090	—	76.2	—
SW99-03	NDF-757	01/26/1999	—	—	8.36	—	40.7	—	~0.0518	—	~0.0152	—	253	—
	NDE-742	04/13/1999	—	—	5.07	—	26.4	—	0.0221	—	~0.0051	—	190	—
	NDE-748	07/27/1999	—	—	~4.25	—	23.5	—	~0.0030	—	~0.0057	—	98.7	—
SW99-04	NDE-737,NDE-738	04/13/1999	40.00	—	~3.32	~3.48	43.9	45.5	0.246	0.267	~0.0093	~0.0103	73.6	76.5
	NBC-994,NDE-722	07/27/1999	26.67	—	~4.48	~4.54	45.3	45.7	0.0405	~0.0595	~0.0100	~0.0125	80.3	83.3
	NDE 804,NDE 805	10/12/1999	20.75	—	5.21	5.35	39.5	42.5	0.0967	0.114	0.0062	0.008	73.6	78.8
Sorenson	NDF-751	01/25/1999	—	—	~4.26	—	49.1	—	~0.161	—	~0.0170	—	92.2	—
	NDF-752	01/25/1999	—	—	~4.19	—	48.2	—	~0.163	—	~0.0172	—	90.7	—
	NDE-729	04/12/1999	—	—	~3.86	—	50.0	—	0.125	—	0.0109	—	81.0	—
	NDE-730	04/12/1999	—	—	~3.82	—	49.6	—	0.123	—	0.0109	—	81.1	—
	NDE-723	07/27/1999	—	—	~3.98	—	48.5	—	0.0401	—	~0.0098	—	73.3	—
	NDE-724	07/27/1999	—	—	~3.99	—	48.8	—	0.0399	—	~0.0097	—	74.2	—
	NDE 807	10/12/1999	—	—	3.75	—	50.5	—	0.0558	—	0.0086	—	67.1	—
	NDE 808	10/12/1999	—	—	3.74	—	50.2	—	0.0539	—	0.0086	—	67.2	—
W-4	NDF-766	01/28/1999	—	—	~3.47	—	43.0	—	~0.0955	—	~0.0112	—	64.1	—
	NDE-726,NDE-728	04/12/1999	<11.74	—	~2.88	~2.92	42.6	42.2	0.0514	0.0949	~0.0036	~0.0030	42.2	42.2
^a A "<" indicates that the maximum concentration was below														
^b Sample was unfiltered.														
^c Results determined using EPA Method 00-02-01; a metho														
^d Estimated														

Table A-18. Surface-Water Chemistry Data Collected At and Near the MMTS During 1999^a

Sample	Ticket	Sample	NO ₃ +NO ₂ As N	ORP ^b	Pb	Pb ^b	Pb-210	Pb-210 ^b	pH ^b	Ra-226	Ra-226 ^b	Rn-222 ^b	Se
Location	Number	Date	(mg/L)	(mV)	(mg/L)	(mg/L)	(pCi/L)	(pCi/L)	(s.u.)	(pCi/L)	(pCi/L)	(pCi/L)	(mg/L)
SW92-03	NDE 815,NDG 472	10/13/1999	<0.012	—	<0.0003	—	<0.27	—	—	<0.61	—	<27	0.0001
SW92-06	NDF-762	01/27/1999	~0.728	—	<0.0010	—	<0.27 ^a	—	8.37	<0.76	—	17	~0.0030
	NDE-732	04/12/1999	~0.0551	—	<0.0010	—	<0.24	—	7.23	0.66	—	<21	~0.0021
	NBC-995,NDE-725	07/27/1999	~0.112	—	<0.00020	<0.00022	<0.25 ^a	<0.24 ^a	8.68	<0.23	<0.19	27	~0.0020
	NDE 810,NDE 811	10/12/1999	0.0929	—	<0.0003	<0.00030	<0.29	<0.28	—	1.26	<0.79	<21	0.0018
SW92-07	NDE-736	04/13/1999	~0.0739	—	<0.0010	—	<0.24	—	7.94	0.87	—	131	~0.0025
	NDE 806	10/12/1999	0.307	—	<0.0003	—	<0.3	—	—	1.15	—	148	0.002
SW92-08	NDE-733	04/13/1999	<0.0040	—	<0.0010	—	<0.23	—	7.82	1.25	—	60	~0.0021
	NDE 803	10/12/1999	0.227	—	<0.0003	—	<0.28	—	—	2.58	—	85	0.0016
SW92-09	NDE-734	04/13/1999	~0.0858	—	<0.0010	—	<0.24	—	7.90	1.01	—	<14	~0.0020
	NDE 802	10/12/1999	0.147	—	<0.0003	—	<0.29	—	—	2.37	—	36	0.0018
SW94-01	NDE-735	04/13/1999	<0.0040	—	<0.0010	—	<0.24	—	7.81	0.85	—	62	~0.0019
	NDE 801	10/12/1999	0.0984	—	<0.0003	—	<0.27	—	—	2.74	—	47	0.0018
SW99-01	NDF-755	01/26/1999	~0.0951	—	<0.0010	—	<0.28 ^a	—	8.42	<0.12	—	<15	~0.00087
	NDE-739,NDE-740	04/13/1999	<0.0040	—	<0.0010	<0.0011	<0.24	<0.24	7.88	<0.19	<0.26	<14	<0.0010
	NBC-996,NDE-747	07/27/1999	<0.012 ^a	—	<0.00020	<0.00022	<0.24 ^a	<0.25 ^a	8.11	<0.13	<0.15	<23	<0.0010
	NDE 812,NDE 813	10/12/1999	<0.012	—	<0.0003	<0.00033	<0.28	<0.28	—	<0.58	1.09	<21	<0.0001
SW99-02	NDF-756	01/26/1999	~0.991	—	<0.0010	—	~0.34	—	7.23	<0.16	—	780	~0.0027
	NDE-741	04/13/1999	0.468	—	<0.0010	—	<0.23	—	6.54	1.26	—	939	~0.0024
	NDE 814	10/12/1999	0.335	—	<0.0003	—	<0.28	—	—	1.03	—	930	0.002
SW99-02A	NDE-750	07/27/1999	<0.012 ^a	—	<0.00020	—	<0.29 ^a	—	7.08	<0.17	—	267	<0.0010
SW99-03	NDF-757	01/26/1999	~12.700	—	<0.0010	—	~1.09	—	8.71	<0.13	—	26	0.0200
	NDE-742	04/13/1999	11.900	—	<0.0010	—	<0.24	—	7.48	2.65	—	<14	0.0178
	NDE-748	07/27/1999	~7.040	—	<0.00020	—	<0.24 ^a	—	9.03	<0.17	—	<23	0.0230
SW99-04	NDE-737,NDE-738	04/13/1999	~0.0756	—	<0.0010	<0.0011	<0.24	<0.24	7.64	1.06	<0.7500	193	~0.0021
	NBC-994,NDE-722	07/27/1999	~0.0433	—	<0.00020	<0.00022	<0.27	<0.25 ^a	8.27	0.84	<0.16	86	~0.0022
	NDE 804,NDE 805	10/12/1999	0.297	—	<0.0003	<0.00033	<0.3	<0.28	—	0.8	<0.54	142	0.0019
Sorenson	NDF-751	01/25/1999	~0.788	—	<0.0010	—	~0.28	—	7.65	<0.16	—	156	~0.0033
	NDF-752	01/25/1999	~0.853	—	<0.0010	—	~0.30	—	—	<0.11	—	127	~0.0032
	NDE-729	04/12/1999	0.121	54	<0.0010	—	<0.25	—	7.82	<0.15	—	144	~0.0029
	NDE-730	04/12/1999	~0.0974	—	<0.0010	—	<0.25	—	—	0.94	—	147	~0.0029
	NDE-723	07/27/1999	~0.284	—	<0.00020	—	<0.25 ^a	—	7.56	0.57	—	86	~0.0030
	NDE-724	07/27/1999	~0.273	—	<0.00020	—	<0.26 ^a	—	—	<0.36	—	88	~0.0030
	NDE 807	10/12/1999	0.452	—	<0.0003	—	<0.26	—	—	0.62	—	121	0.0031
	NDE 808	10/12/1999	0.448	—	<0.0003	—	<0.28	—	—	<0.45	—	119	0.0031
W-4	NDF-766	01/28/1999	~0.751	—	<0.0010	—	<0.28 ^a	—	7.71	<0.18	—	<12	~0.0030
	NDE-726,NDE-728	04/12/1999	0.390	130	<0.0010	~0.0012	<0.26	<0.24	7.78	<0.17	0.81	<20	~0.0016
^a A "<" indicates that the maximum concentration was below													
^b Sample was unfiltered.													
^c Results determined using EPA Method 00-02-01; a metho													
^d Estimated													

Table A-18. Surface-Water Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample	Ticket	Sample	Se ^b	SO ₄	TDS ^b	Th-230	Th-230 ^b	TMP ^b	Turbidity ^b	U	U ^b	V	V ^b	Zn
Location	Number	Date	(mg/L)	(mg/L)	(mg/L)	(pCi/L)	(pCi/L)	(C)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SW92-03	NDE 815,NDG 472	10/13/1999	—	399	870	<0.6	—	8.9	—	0.003	—	<0.001	—	0.0084
SW92-06	NDF-762	01/27/1999	—	720	1350	<0.80	—	2.2	753	0.0415	—	~0.0059	—	~0.0070
	NDE-732	04/12/1999	—	638	1190	<1.2	—	17.6	91.4	0.0371	—	~0.0039	—	<0.0090
	NBC-995,NDE-725	07/27/1999	~0.0018	550	1060	<0.60	<0.67	26.5	5.56	0.0217	0.0223	~0.0071	~0.0075	<0.0182
	NDE 810,NDE 811	10/12/1999	0.0018	669	1200	<0.6	<0.6	19.2	16.6	0.024	0.0232	0.0064	0.006	0.0157
SW92-07	NDE-736	04/13/1999	—	735	1360	<1.2	—	10.3	—	0.0924	—	~0.0017	—	<0.0090
	NDE 806	10/12/1999	—	550	1100	<0.6	—	12.5	—	0.056	—	<0.001	—	0.0097
SW92-08	NDE-733	04/13/1999	—	629	1210	<1.2	—	8.2	4.75	0.0929	—	~0.0017	—	<0.0090
	NDE 803	10/12/1999	—	568	1100	<0.6	—	7.4	—	0.0583	—	<0.0010	—	0.010
SW92-09	NDE-734	04/13/1999	—	674	1220	<1.2	—	7.7	4.99	0.0922	—	~0.0018	—	<0.0090
	NDE 802	10/12/1999	—	570	1100	<0.6	—	7.1	—	0.0584	—	<0.0010	—	0.0121
SW94-01	NDE-735	04/13/1999	—	613	1210	<1.2	—	6.8	7.74	0.0834	—	~0.0020	—	<0.0090
	NDE 801	10/12/1999	—	548	1100	<0.6	—	5.9	—	0.0583	—	<0.0010	—	0.0121
SW99-01	NDF-755	01/26/1999	—	606	1110	<0.80	—	0.9	2.68	0.0058	—	~0.0011	—	<0.0060
	NDE-739,NDE-740	04/13/1999	<0.0011	447	845	<1.2	<1.2	11.1	4.33	~0.0031	~0.0034	<0.0010	<0.0011	<0.0090
	NBC-996,NDE-747	07/27/1999	<0.0011	412	805	<0.60	<1.5	23.8	6.07	~0.0026	~0.0027	~0.00073	~0.0024	<0.0182
	NDE 812,NDE 813	10/12/1999	0.00022	406	808	<0.6	<0.6	10.9	5.23	0.0031	0.003	<0.001	<0.0011	0.0076
SW99-02	NDF-756	01/26/1999	—	833	1520	<0.80	—	6.5	2.52	0.0274	—	<0.0010	—	<0.0060
	NDE-741	04/13/1999	—	701	1350	<1.2	—	8.5	9.65	0.0221	—	<0.0010	—	<0.0090
	NDE 814	10/12/1999	—	664	1340	<0.6	—	11.5	0.89	0.0202	—	<0.0010	—	0.0121
SW99-02A	NDE-750	07/27/1999	—	357	1110	<0.60	—	16.5	24.3	0.0429	—	<0.00060	—	<0.0182
SW99-03	NDF-757	01/26/1999	—	253	1490	<0.80	—	1.4	26.5	0.210	—	~0.0109	—	<0.0060
	NDE-742	04/13/1999	—	180	1030	<1.2	—	11.9	>1000	0.0488	—	~0.0100	—	<0.0090
	NDE-748	07/27/1999	—	230	727	~0.76	—	27.0	178	0.0190	—	~0.0140	—	<0.0182
SW99-04	NDE-737,NDE-738	04/13/1999	~0.0024	649	1240	<1.2	<1.2	8.8	8.61	0.0895	0.0919	~0.0018	~0.0027	<0.0090
	NBC-994,NDE-722	07/27/1999	~0.0022	564	1260	<1.5	<0.67	19.2	4.90	0.0830	0.0877	~0.0030	~0.0046	<0.0182
	NDE 804,NDE 805	10/12/1999	0.0019	555	1110	<0.6	<0.6	10.0	10.3	0.0592	0.061	<0.0010	0.0043	0.0124
Sorenson	NDF-751	01/25/1999	—	779	1410	<0.80	—	5.1	41.0	0.100	—	~0.0048	—	~0.0075
	NDF-752	01/25/1999	—	789	1430	<0.80	—	—	—	0.0980	—	~0.0046	—	<0.0060
	NDE-729	04/12/1999	—	708	1350	<1.2	—	16.3	8.65	0.107	—	~0.0030	—	<0.0090
	NDE-730	04/12/1999	—	705	1360	<1.2	—	—	—	0.106	—	~0.0033	—	<0.0090
	NDE-723	07/27/1999	—	658	1340	<0.60	—	17.9	28.7	0.0831	—	~0.0036	—	<0.0182
	NDE-724	07/27/1999	—	664	1380	<0.60	—	—	—	0.0839	—	~0.0040	—	<0.0182
	NDE 807	10/12/1999	—	745	1380	<0.6	—	11.9	—	0.0853	—	<0.0010	—	0.0113
	NDE 808	10/12/1999	—	740	1400	<0.6	—	—	—	0.0871	—	<0.0010	—	0.0129
W-4	NDF-766	01/28/1999	—	702	1300	<0.80	—	3.3	37.1	0.0254	—	~0.0054	—	<0.0060
	NDE-726,NDE-728	04/12/1999	~0.0019	631	1630	<1.2	<1.2	18.8	94.6	0.0195	0.0202	~0.0021	~0.0046	<0.0090
^a A "<" indicates that the maximum concentration was below														
^b Sample was unfiltered.														
^c Results determined using EPA Method 00-02-01; a metho														
^d Estimated														

Table A-18. Surface-Water Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample	Ticket	Sample	Zn ^b
Location	Number	Date	(mg/L)
SW92-03	NDE 815,NDG 472	10/13/1999	--
SW92-06	NDF-762	01/27/1999	--
	NDE-732	04/12/1999	--
	NBC-995,NDE-725	07/27/1999	<0.0202
	NDE 810,NDE 811	10/12/1999	<0.0008 ^c
SW92-07	NDE-736	04/13/1999	--
	NDE 806	10/12/1999	--
SW92-08	NDE-733	04/13/1999	--
	NDE 803	10/12/1999	--
SW92-09	NDE-734	04/13/1999	--
	NDE 802	10/12/1999	--
SW94-01	NDE-735	04/13/1999	--
	NDE 801	10/12/1999	--
SW99-01	NDF-755	01/26/1999	--
	NDE-739,NDE-740	04/13/1999	<0.0100
	NBC-996,NDE-747	07/27/1999	<0.0202
	NDE 812,NDE 813	10/12/1999	<0.0008 ^c
SW99-02	NDF-756	01/26/1999	--
	NDE-741	04/13/1999	--
	NDE 814	10/12/1999	--
SW99-02A	NDE-750	07/27/1999	--
SW99-03	NDF-757	01/26/1999	--
	NDE-742	04/13/1999	--
	NDE-748	07/27/1999	--
SW99-04	NDE-737,NDE-738	04/13/1999	<0.0100
	NBC-994,NDE-722	07/27/1999	<0.0202
	NDE 804,NDE 805	10/12/1999	<0.0008 ^c
Sorenson	NDF-751	01/25/1999	--
	NDF-752	01/25/1999	--
	NDE-729	04/12/1999	--
	NDE-730	04/12/1999	--
	NDE-723	07/27/1999	--
	NDE-724	07/27/1999	--
	NDE 807	10/12/1999	--
	NDE 808	10/12/1999	--
W-4	NDF-766	01/28/1999	--
	NDE-726,NDE-728	04/12/1999	<0.0100
^a A "<" indicates that the maximum concentration was below			
^b Sample was unfiltered.			
^c Results determined using EPA Method 00-02-01; a metho			
^d Estimated			

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample	Ticket	Sample	ALK	Alky-HCO ₃	As	Bromide	Ca	Chloride	Co	Cu	DO	EC
Location	Number	Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μmhos/cm)
31NE93-205	NDE 852	10/21/1999	153	--	0.0265	--	69.8	2.64	<0.0002	0.0015	0.44	912
31SW93-200-1	NDE 853	10/22/1999	209	--	<0.0004	--	62.4	2.53	0.0003	0.0011	0.44	585
31SW93-200-2	NDE 869,NDG 419	10/27/1999	--	--	0.0015	--	21.6	5.64	0.00076	0.0044	0.55	777
31SW93-200-3	NDE 871,NDG 418	10/27/1999	386	--	<0.0004	--	281	116	0.0012	0.0125	--	3950
31SW93-200-4	NDE 870,NDG 417	10/27/1999	296	--	<0.0004	--	521	158	0.00049	0.0059	--	3910
82-07	NDF-769	01/28/1999	203	--	~0.0024	--	264	36.4	<0.0010	~0.0021	--	1772
82-08	NDE-706	04/13/1999	249	~180	~0.0030	--	492	312	~0.0105	~0.0019	--	3800
	NDE-758	07/29/1999	242	--	~0.0024	0.851	458	~0.212	~0.0084	~0.00060	2.82	3430
	NDE 824	10/19/1999	166	--	<0.0004	--	368	230	0.0012	0.0037	0.36	3250
	NDE 825	10/19/1999	--	--	0.00096	--	395	226	0.0011	0.0037	--	--
82-20	NDE 872	10/27/1999	316	--	<0.0004	--	485	13.0	0.0014	0.0024	4.63	2598
	NDE 873	10/27/1999	--	--	0.00067	--	485	12.6	0.0017	0.0022	--	--
83-70	NDE-718	04/14/1999	199	125	<0.0010	--	51.8	3.46	<0.0010	<0.0010	--	616
	NDE 864	10/26/1999	196	--	<0.0004	--	55.8	3.10	<0.0002	0.0012	0.49	602
88-85	NDF-765	01/27/1999	347	--	~0.0075	--	373	177	~0.0013	~0.0038	--	3390
	NDE-761	08/05/1999	348	--	0.0100	~0.814	405	~201	~0.00035	~0.0021	1.93	3570
	NDE 863	10/26/1999	343	--	0.0095	--	378	174	0.00039	0.0058	0.44	3240
92-05	NDE 816,NDG 473	10/13/1999	305	--	<0.0004	--	253	15.2	<0.0002	0.0015	--	1531
92-06	NDE 817,NDG 474	10/13/1999	193	--	0.00042	--	68.5	2.04	<0.0002	<0.0008	0.12	560
92-07	NDF-767	01/28/1999	248	--	~0.0077	--	256	62.7	~0.0013	~0.0034	--	2490
	NDF-768	01/28/1999	--	--	~0.0075	--	260	56.8	~0.0011	~0.0034	--	--
	NDE-701	04/12/1999	270	~180	~0.0072	--	280	86.7	~0.0025	~0.0045	--	2620
	NDE-760	08/05/1999	318	--	0.0100	~0.883	397	~184	~0.00050	~0.0021	4.56	3470
	NDE 865	10/27/1999	307	--	0.0092	--	340	125	0.00098	0.0065	2.96	3220
92-08	NDF-761	01/26/1999	361	--	~0.00021	--	286	88.6	<0.0010	~0.0020	--	2330
	NDE-703	04/12/1999	283	~168	<0.0010	--	249	69.8	<0.0010	~0.0016	--	2030
	NDE-751	07/28/1999	249	--	<0.0010	0.321	241	79.3	~0.00025	~0.00084	0.78	1620
	NDE-752	07/28/1999	--	--	<0.0010	0.317	241	77.8	~0.00021	~0.00094	--	--
	NDE 861	10/26/1999	313	--	<0.0004	--	311	90.4	0.00047	0.0042	2.87	2200
92-09	NDE-712	04/13/1999	326	~198	~0.0012	--	338	118	<0.0010	~0.0012	--	2620
	NDE-713	04/13/1999	--	~192	~0.0012	--	339	120	<0.0010	~0.0013	--	--
	NBC-999	07/28/1999	373	--	~0.0016	--	--	--	<0.0002	~0.00091	--	2592
	NDE 859	10/26/1999	396	--	0.0014	--	369	120	0.00047	0.003	0.49	2630
92-10	NDE-716	04/14/1999	201	113	<0.0010	--	75.1	16.7	<0.0010	<0.0010	--	722
	NDE-717	04/14/1999	--	115	<0.0010	--	74.4	16.7	<0.0010	<0.0010	--	--
	NDE 860	10/26/1999	238	--	0.00049	--	80.2	16.3	<0.0002	0.0012	0.72	709
92-11	NDF-754	01/25/1999	404	--	0.0157	--	312	191	<0.0010	~0.0034	--	3100
	NDE-709	04/13/1999	378	~229	0.0141	--	473	274	~0.0012	~0.0031	--	3880
	NDE-754	07/29/1999	354	--	0.0153	0.821	419	210	~0.0018	~0.0017	--	3230

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample	Ticket	Sample	ALK	Alky-HCO ₃	As	Bromide	Ca	Chloride	Co	Cu	DO	EC
Location	Number	Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µmhos/cm)
	NDE 829	10/20/1999	445	—	0.0183	—	372	230	0.0012	0.0058	3.9	3560
92-12	NDE-720,NDE-721	04/21/1999	227	179	<0.0010	—	33.9	4.44	<0.0010	~0.0028	—	794
	NDE 828,NDG 415	10/20/1999	300	—	0.00081	—	32.6	4.09	<0.0002	0.0023	—	753
92-13	NDE 830,NDG 416	10/20/1999	328	—	0.0169	—	11.3	4.74	<0.0002	0.0031	—	692
93-01	NDE 866	10/27/1999	207	—	0.0015	—	70.8	2.35	<0.0002	0.00084	0.74	576
95-01	NDE-710	04/13/1999	166	~107	~0.0019	—	38.8	5.96	<0.0010	<0.0010	—	577
	NDE 854	10/25/1999	220	—	0.0026	—	39.0	6.03	<0.0002	0.0014	0.41	598
95-02	NDE 855	10/25/1999	164	—	0.0011	—	37.6	5.49	<0.0002	0.0013	0.20	593
95-03	NDE-711	04/13/1999	242	~136	<0.0010	—	151	66.2	<0.0010	~0.0010	—	1526
	NBC-998	07/28/1999	198	—	<0.0010	—	—	—	<0.0002	~0.00063	—	1512
	NDE 856	10/25/1999	237	—	<0.0004	—	148	66.4	<0.0002	0.0017	0.31	1475
	NDE 857	10/25/1999	—	—	0.00048	—	159	65.3	<0.0002	0.0018	—	—
95-04	NDE 858	10/25/1999	240	—	0.00074	—	166	72.4	<0.0002	0.002	0.88	1563
95-06	NDE-719	04/14/1999	320	192	<0.0010	—	213	114	<0.0010	~0.0020	—	2240
	NDE 851	10/21/1999	314	—	<0.00040	—	203	102	0.00057	0.0034	3.2	2110
95-07	NDE 819,NDG 414	10/18/1999	1365	—	0.00053	—	5.56	25.1	<0.0002	0.0086	—	2420
95-08	NDJ 851	10/21/1999	283	—	<0.00040	—	25.9	5.92	<0.0002	0.0018	0.44	592
GB1126T	NDF-251	02/23/1999	—	—	0.0015	—	—	—	0.0011	0.0345	—	—
	NDE-745	04/14/1999	—	—	~0.0052	—	206	—	<0.0010	~0.0056	—	—
	NDG-471	07/29/1999	—	—	~0.0021	—	—	—	~0.00047	~0.0035	—	—
	NDG 475	10/14/1999	—	—	—	—	—	—	—	—	—	—
GB2820T	NDF-252	02/23/1999	—	—	0.00022	—	—	—	0.0011	0.0099	—	—
	NDE-743	04/13/1999	—	—	<0.0010	—	619	—	<0.0010	0.0371	—	—
	NDG-470	07/29/1999	—	—	<0.0010	—	—	—	~0.0012	0.0294	—	—
GB3127T	NDE-744	04/14/1999	—	—	<0.0010	—	259	—	<0.0010	~0.0153	—	—
P92-02	NDE-715	04/14/1999	409	247	<0.0010	—	371	189	<0.0010	~0.0018	—	3100
	NDF-770	07/28/1999	403	—	<0.0010	—	—	—	~0.0011	~0.0013	—	3280
	NDE 821	10/18/1999	418	—	<0.0004	—	345	193	0.0012	0.0038	0.33	3280
P92-03	NDE 820	10/18/1999	420	—	<0.0004	—	346	178	0.0222	0.004	0.12	2980
P92-04	NDF-759	01/26/1999	391	—	<0.00010	—	306	181	<0.0010	~0.0021	—	2570
	NDE-705	04/12/1999	359	~225	<0.0010	—	252	159	<0.0010	~0.0017	—	1161
	NDE-755	07/29/1999	363	—	<0.0010	0.683	261	159	<0.00020	~0.00084	6.67	1786
	NDE 823	10/19/1999	400	—	<0.0004	—	260	177	0.00024	0.0032	4.58	2420
P92-05	NDF-760	01/26/1999	—	—	<0.00010	—	407	163	~0.0051	~0.0026	—	3280
	NDE-704	04/13/1999	—	~235	<0.0010	—	350	172	<0.0010	~0.0026	—	3200
	NDE-753	07/28/1999	410	—	<0.0010	0.442	294	202	~0.00026	~0.0031	—	3170
	NDE 822	10/19/1999	399	—	<0.0004	—	346	197	0.00092	0.0047	—	3450
P92-06	NDF-763	01/27/1999	406	—	<0.00010	—	471	158	<0.0010	~0.0039	—	4190

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample	Ticket	Sample	ALK	Alky-HCO ₃	As	Bromide	Ca	Chloride	Co	Cu	DO	EC
Location	Number	Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μmhos/cm)
	NDE-702	04/12/1999	411	~250	<0.0010	—	509	173	<0.0010	~0.0039	—	4630
	NDE-757	07/29/1999	414	—	<0.0010	1.120	595	222	~0.00022	~0.0016	3.10	4310
	NDE 818	10/15/1999	411	—	<0.0004	—	601	257	0.00066	0.0087	3.5	5190
P92-07	NDF-764	01/27/1999	—	—	<0.00010	—	355	242	<0.0010	~0.0038	—	3270
	NDE-707	04/15/1999	346	201	<0.0010	—	298	234	~0.0012	~0.0032	—	2940
	NDE-746	08/05/1999	—	—	<0.0010	—	270	—	~0.00056	~0.0017	4.24	2660
	NDE 827	10/20/1999	—	—	—	—	—	—	—	—	—	2800
P92-09	NDF-753	01/25/1999	513	—	~0.00014	—	282	176	<0.0010	~0.0029	—	3230
	NDE-708	04/13/1999	486	~311	<0.0010	—	276	163	<0.0010	~0.0025	—	3200
	NDE-756	07/29/1999	490	—	<0.0010	1.120	276	181	<0.00020	~0.00085	3.62	3250
	NDE 826	10/19/1999	608	—	0.00041	—	221	129	<0.0002	0.0048	3.3	2800
R1-M1	NDE-997	09/14/1999	298	—	0.0114	—	329	—	—	—	0.33	3380
	NDJ-269	10/20/1999	223	—	0.0131	—	—	—	—	—	0.39	2910
	NDJ-303	11/17/1999	162	—	0.0122	—	—	—	—	—	0.86	3080
R1-M2	NDE-978	09/13/1999	246	—	0.0100	0.633	350	~140	—	—	0.59	3400
	NDJ-260	10/20/1999	226	—	0.0127	—	287	124	—	—	0.54	2950
	NDJ-261	10/20/1999	—	—	0.0132	—	296	121	—	—	—	—
	NDJ-250	11/17/1999	244	—	0.0133	—	255	124	—	—	0.92	3120
R1-M3	NDE-987	09/14/1999	249	—	0.0100	0.650	339	~134	—	—	0.43	3400
	NDJ-725	10/20/1999	237	—	0.0118	—	275	123	—	—	0.44	2970
	NDJ-248	11/17/1999	275	—	0.0119	—	269	141	—	—	0.65	3120
	NDJ-249	11/17/1999	275	—	0.0123	—	265	137	—	—	0.65	3120
R1-M4	NDE-962	09/13/1999	369	—	0.0079	0.680	428	~173	—	—	0.26	3370
	NDE-948	10/19/1999	347	—	0.0076	—	380	189	—	—	0.78	3280
	NDJ-242	11/17/1999	361	—	0.0068	—	304	154	—	—	0.55	3080
R1-M5	NDE-953	09/13/1999	321	—	0.0072	—	—	—	—	—	0.92	3200
	NDE-938	10/18/1999	340	—	0.0066	—	—	—	—	—	1.29	3220
	NDJ-278	11/16/1999	439	—	0.0050	—	—	—	—	—	4.17	5190
R2-M1	NDE-977	09/13/1999	25	—	<0.00040	—	214	—	—	—	0.28	2950
	NDJ-267	10/20/1999	111	—	<0.00040	—	—	—	—	—	0.45	2650
	NDJ-293	11/16/1999	53	—	<0.00040	—	—	—	—	—	1.17	2620
R2-M2	NDE-979	09/13/1999	55	—	<0.00040	0.640	189	~146	—	—	0.17	2830
	NDJ-262	10/20/1999	94	—	0.00045	—	167	7.18	—	—	0.47	2550
	NDJ-294	11/17/1999	—	—	<0.00040	—	194	126	—	—	0.29	2890
R2-M3	NDE-984	09/13/1999	104	—	<0.00040	—	224	—	—	—	0.21	2980
	NDJ-257	10/20/1999	175	—	<0.00040	—	—	—	—	—	0.41	2700
	NDJ-300	11/17/1999	140	—	<0.00040	—	—	—	—	—	0.75	2730
R2-M4	NDE-988	09/14/1999	42	—	<0.00040	0.665	214	~151	—	—	0.18	2900
	NDJ-251	10/20/1999	74	—	<0.00040	—	155	126	—	—	0.39	2460
	NDJ-238	11/16/1999	64	—	<0.00040	—	129	139	—	—	1.70	2540

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	ALK (mg/L)	Alky-HCO ₃ (mg/L)	As (mg/L)	Bromide (mg/L)	Ca (mg/L)	Chloride (mg/L)	Co (mg/L)	Cu (mg/L)	DO (mg/L)	EC (µmhos/cm)
R2-M5	NDE-993	09/14/1999	61	--	<0.00040	--	204	--	--	--	0.26	2850
	NDJ-722	10/19/1999	110	--	<0.00040	--	--	--	--	--	0.26	2630
	NDJ-237	11/16/1999	173	--	<0.00040	--	--	--	--	--	1.30	2820
R2-M6	NDE-968	09/14/1999	333	--	<0.00040	--	--	--	--	--	0.88	3280
	NDJ-708	10/19/1999	276	--	0.00067	--	--	--	--	--	0.55	3010
	NDJ-245	11/17/1999	313	--	0.0010	--	--	--	--	--	0.58	3260
R2-M7	NDE-963	09/13/1999	380	--	<0.00040	0.672	371	~163	--	--	0.49	3350
	NDE-949	10/19/1999	338	--	<0.00040	--	311	172	--	--	0.40	3170
	NDJ-288	11/16/1999	380	--	<0.00040	--	307	163	--	--	0.42	3180
R2-M8	NDE-959	09/13/1999	342	--	<0.00040	--	--	--	--	--	0.11	3220
	NDE-945	10/18/1999	306	--	<0.00040	--	--	--	--	--	0.27	3000
	NDJ-284	11/16/1999	360	--	<0.00040	--	--	--	--	--	0.74	3170
R2-M9	NDE-954	09/13/1999	186	--	<0.00040	--	--	--	--	--	0.23	3100
	NDE-939	10/18/1999	142	--	<0.00040	--	--	--	--	--	1.44	2900
	NDJ-279	11/16/1999	216	--	<0.00040	--	--	--	--	--	1.35	2860
R2-M10	NDE-952	09/13/1999	63	--	<0.00040	--	--	--	--	--	0.69	2830
	NDE-936	10/18/1999	105	--	<0.00040	--	--	--	--	--	0.90	2620
	NDJ-276	11/16/1999	54	--	<0.00040	--	--	--	--	--	0.19	2600
R3-M1	NDE-980	09/13/1999	59	--	<0.00040	0.612	176	~138	--	--	0.16	2840
	NDJ-263	10/20/1999	103	--	<0.00040	--	191	117	--	--	0.32	2590
	NDJ-296	11/17/1999	112	--	<0.00040	--	164	123	--	--	2.24	2790
R3-M2	NDE-989	09/14/1999	33	--	<0.00040	0.728	206	~161	--	--	0.17	2880
	NDJ-252	10/20/1999	38	--	<0.00040	--	152	124	--	--	0.34	2490
	NDJ-239	11/16/1999	40	--	<0.00040	--	123	138	--	--	1.20	3780
R3-M3	NDE-964	09/13/1999	398	--	<0.00040	0.661	396	~161	--	--	0.70	3360
	NDE-950	10/19/1999	338	--	<0.00040	--	372	168	--	--	0.65	3180
	NDJ-243	11/17/1999	256	--	<0.00040	--	308	170	--	--	0.51	3250
R3-M4	NDE-955	09/13/1999	168	--	<0.00040	--	--	--	--	--	0.20	3030
	NDE-940	10/18/1999	137	--	<0.00040	--	--	--	--	--	1.08	2770
	NDJ-280	11/16/1999	169	--	<0.00040	--	--	--	--	--	0.75	5030
R4-M1	NDE-981	09/13/1999	12	--	<0.00040	0.648	179	~144	--	--	0.10	2860
	NDJ-264	10/20/1999	35	--	0.00047	--	123	117	--	--	0.28	2370
	NDJ-297	11/17/1999	40	--	<0.00040	--	118	128	--	--	1.36	2520
R4-M2	NDE-985	09/13/1999	8	--	<0.00040	--	174	--	--	--	0.22	2850
	NDJ-258	10/20/1999	41	--	<0.00040	--	--	--	--	--	0.32	2350
	NDJ-301	11/17/1999	36	--	<0.00040	--	--	--	--	--	1.47	2570
R4-M3	NDE-990	09/14/1999	15	--	<0.00040	0.705	205	~159	--	--	0.25	2840
	NDJ-253	10/20/1999	17	--	<0.00040	--	134	128	--	--	0.34	2360
	NDJ-240	11/16/1999	35	--	<0.00040	--	107	125	--	--	1.61	2510
R4-M4	NDE-994	09/14/1999	17	--	<0.00040	--	166	--	--	--	0.32	2700

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	ALK (mg/L)	Alky-HCO ₃ (mg/L)	As (mg/L)	Bromide (mg/L)	Ca (mg/L)	Chloride (mg/L)	Co (mg/L)	Cu (mg/L)	DO (mg/L)	EC (µmhos/cm)
	NDJ-723	10/19/1999	23	—	<0.00040	—	—	—	—	—	0.30	2420
	NDJ-236	11/16/1999	38	—	<0.00040	—	—	—	—	—	0.86	4400
R4-M5	NDE-969	09/14/1999	186	—	<0.00040	—	—	—	—	—	0.10	3070
	NDJ-709	10/19/1999	170	—	<0.00040	—	—	—	—	—	0.52	2870
	NDJ-274	11/16/1999	208	—	<0.00040	—	—	—	—	—	1.04	2970
R4-M6	NDE-965	09/14/1999	50	—	<0.00040	0.670	228	~160	—	—	0.00	2980
	NDE-999	10/19/1999	26	—	<0.00040	—	165	164	—	—	0.44	2680
	NDJ-289	11/16/1999	51	—	<0.00040	—	138	161	—	—	0.56	2700
R4-M7	NDE-960	09/13/1999	24	—	<0.00040	—	—	—	—	—	0.44	2890
	NDE-946	10/18/1999	48	—	<0.00040	—	—	—	—	—	0.32	2620
	NDJ-285	11/16/1999	72	—	<0.00040	—	—	—	—	—	0.49	2760
	NDJ-286	11/16/1999	—	—	<0.00040	—	—	—	—	—	—	—
R4-M8	NDE-956	09/13/1999	41	—	<0.00040	—	—	—	—	—	0.35	2770
	NDE-941	10/18/1999	24	—	<0.00040	—	—	—	—	—	1.27	2540
	NDE-942	10/18/1999	—	—	<0.00040	—	—	—	—	—	—	—
	NDJ-281	11/16/1999	52	—	<0.00040	—	—	—	—	—	0.80	2620
R5-M1	NDE-976	09/13/1999	27	—	<0.00040	—	220	—	—	—	0.26	3060
	NDJ-268	10/20/1999	25	—	<0.00040	—	—	—	—	—	0.23	2400
	NDJ-292	11/16/1999	34	—	<0.00040	—	—	—	—	—	0.97	2510
R5-M2	NDE-982	09/13/1999	9	—	<0.00040	0.645	182	~147	—	—	0.18	2870
	NDJ-265	10/20/1999	36	—	<0.00040	—	122	117	—	—	0.29	2420
	NDJ-298	11/17/1999	32	—	<0.00040	—	116	128	—	—	0.53	2480
R5-M3	NDE-986	09/13/1999	2	—	<0.00040	—	186	—	—	—	0.17	2850
	NDJ-259	10/20/1999	36	—	<0.00040	—	—	—	—	—	0.42	2300
	NDJ-302	11/17/1999	38	—	<0.00040	—	—	—	—	—	0.76	2510
R5-M4	NDE-991	09/14/1999	22	—	<0.00040	0.697	211	~162	—	—	0.16	2840
	NDJ-254	10/20/1999	29	—	<0.00040	—	135	129	—	—	0.35	2330
	NDJ-241	11/16/1999	32	—	<0.00040	—	116	144	—	—	1.76	2980
R5-M5	NDE-995	09/14/1999	11	—	<0.00040	—	171	—	—	—	0.20	2740
	NDJ-724	10/19/1999	21	—	<0.00040	—	—	—	—	—	0.29	2340
	NDJ-235	11/16/1999	24	—	<0.00040	—	—	—	—	—	0.49	2630
R5-M6	NDE-970	09/14/1999	82	—	<0.00040	—	—	—	—	—	0.19	2910
	NDJ-710	10/19/1999	60	—	<0.00040	—	—	—	—	—	0.24	2600
	NDJ-275	11/16/1999	70	—	<0.00040	—	—	—	—	—	0.53	2970
R5-M7	NDE-966	09/14/1999	32	—	<0.00040	0.683	230	~162	—	—	0.02	2940
	NDJ-706	10/19/1999	38	—	<0.00040	—	162	165	—	—	0.48	2540
	NDJ-290	11/16/1999	48	—	<0.00040	—	144	166	—	—	0.74	2600
R5-M8	NDE-961	09/13/1999	34	—	<0.00040	—	—	—	—	—	0.07	2910
	NDE-947	10/18/1999	28	—	<0.00040	—	—	—	—	—	0.36	2630
	NDJ-287	11/16/1999	64	—	<0.00040	—	—	—	—	—	0.57	2690

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	ALK (mg/L)	Alky-HCO ₃ (mg/L)	As (mg/L)	Bromide (mg/L)	Ca (mg/L)	Chloride (mg/L)	Co (mg/L)	Cu (mg/L)	DO (mg/L)	EC (µmhos/cm)
R5-M9	NDE-957	09/13/1999	35	—	<0.00040	—	—	—	—	—	0.50	2880
	NDE-943	10/18/1999	28	—	<0.00040	—	—	—	—	—	1.11	2540
	NDJ-282	11/16/1999	—	—	<0.00040	—	—	—	—	—	0.78	2620
R5-M10	NDE-951	09/13/1999	61	—	<0.00040	—	—	—	—	—	0.78	2850
	NDE-937	10/18/1999	24	—	<0.00040	—	—	—	—	—	1.83	2620
	NDJ-277	11/16/1999	27	—	<0.00040	—	—	—	—	—	1.20	2550
R6-M2	NDE-983	09/13/1999	2	—	0.0027	0.653	206	~149	—	—	0.17	2910
	NDJ-266	10/20/1999	20	—	0.0027	—	119	121	—	—	0.51	2320
	NDJ-299	11/17/1999	32	—	0.0026	—	125	130	—	—	0.71	2510
R6-M3	NDE-992	09/14/1999	—	—	0.0010	—	324	—	—	—	—	—
	NDJ-255	10/20/1999	—	—	<0.00040	—	308	—	—	—	—	2740
R6-M4	NDE-967	09/14/1999	52	—	0.0071	0.675	217	~160	—	—	0.92	2820
	NDJ-707	10/19/1999	38	—	0.0094	—	146	143	—	—	1.83	2540
	NDJ-291	11/16/1999	75	—	0.0132	—	154	152	—	—	3.00	2620
R6-M5	NDE-958	09/13/1999	57	—	0.0047	—	—	—	—	—	0.75	2830
	NDE-944	10/18/1999	48	—	0.0049	—	—	—	—	—	0.34	2480
	NDJ-283	11/16/1999	54	—	0.0057	—	—	—	—	—	1.63	2540
R7-M1	NDJ-705	09/14/1999	—	—	0.0020	—	284	—	—	—	—	—
R9-M1	NDJ-704	09/14/1999	—	—	0.00069	—	282	—	—	—	—	—
	NDJ-270	11/17/1999	—	—	—	—	—	—	—	—	—	2270
R10-M1	NDJ-702	09/14/1999	—	—	0.0034	—	260	—	—	—	—	—
	NDJ-271	10/21/1999	69	—	0.0041	—	212	142	—	—	—	2490
	NDJ-304	11/17/1999	89	—	0.0070	—	187	139	—	—	1.05	2510
R11-M1	NDJ-701	09/14/1999	—	—	<0.00040	—	345	—	—	—	—	—
	NDJ-305	11/17/1999	—	—	—	—	—	—	—	—	—	2140
T1-D	NDE-971	09/14/1999	295	—	0.0099	0.640	359	~141	—	—	0.30	3240
	NDE-972	09/14/1999	—	—	0.0100	0.661	—	141	—	—	—	—
	NDJ-712	10/19/1999	235	—	0.0096	—	271	133	—	—	0.27	4510
	NDJ-247	11/17/1999	180	—	0.0090	—	276	144	—	—	0.64	3002
T1-S	NDE-974	09/14/1999	279	—	0.0098	0.664	359	143	—	—	0.68	3190
	NDJ-711	10/19/1999	226	—	0.0100	—	268	130	—	—	0.38	2940
	NDJ-246	11/17/1999	169	—	0.0091	—	284	143	—	—	0.54	3130
T2-D	NDE-975	09/14/1999	277	—	<0.00040	0.675	304	148	—	—	0.13	3100
	NDJ-714	10/19/1999	268	—	<0.00040	—	252	134	—	—	0.33	2850
	NDJ-227	11/16/1999	297	—	<0.00040	—	264	157	—	—	1.39	3110
T2-S	NDE-926	09/14/1999	59	—	<0.00040	0.669	234	151	—	—	0.01	2730
	NDJ-713	10/19/1999	222	—	<0.00040	—	240	132	—	—	0.28	2860
	NDJ-226	11/16/1999	238	—	<0.00040	—	249	140	—	—	—	3050
T3-D	NDE-927	09/14/1999	283	—	0.00044	0.657	285	146	—	—	0.01	3100
	NDJ-716	10/19/1999	256	—	<0.00040	—	245	149	—	—	0.24	2850

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample Location	Ticket Number	Sample Date	ALK (mg/L)	Alky-HCO ₃ (mg/L)	As (mg/L)	Bromide (mg/L)	Ca (mg/L)	Chloride (mg/L)	Co (mg/L)	Cu (mg/L)	DO (mg/L)	EC (µmhos/cm)
	NDJ-229	11/16/1999	316	—	<0.00040	—	262	160	—	—	0.84	3140
	NDJ-230	11/16/1999	316	—	<0.00040	—	264	164	—	—	0.84	3140
T3-S	NDE-928	09/14/1999	43	—	<0.00040	0.633	204	149	—	—	0.02	2690
	NDJ-715	10/19/1999	85	—	<0.00040	—	183	145	—	—	0.22	2580
	NDJ-228	11/16/1999	187	—	<0.00040	—	221	159	—	—	0.58	2890
T4-D	NDE-929	09/14/1999	36	—	<0.00040	0.638	173	151	—	—	0.00	2770
	NDE-930	09/14/1999	—	—	<0.00040	0.647	—	157	—	—	—	—
	NDJ-718	10/19/1999	38	—	<0.00040	—	153	151	—	—	0.16	2630
	NDJ-231	11/16/1999	78	—	<0.00040	—	165	163	—	—	0.66	2830
T4-S	NDE-931	09/14/1999	14	—	<0.00040	0.748	185	156	—	—	-0.04	2660
	NDE-932	09/14/1999	—	—	<0.00040	0.671	—	154	—	—	—	—
	NDJ-717	10/19/1999	17	—	<0.00040	—	140	148	—	—	0.16	2420
	NDJ-232	11/16/1999	32	—	<0.00040	—	140	166	—	—	1.27	2650
T5-D	NDE-933	09/14/1999	22	—	<0.00040	0.700	168	154	—	—	0.26	2710
	NDJ-720	10/19/1999	37	—	<0.00040	—	149	149	—	—	0.16	2580
	NDJ-234	11/16/1999	49	—	<0.00040	—	144	164	—	—	0.42	2770
T5-S	NDE-934	09/14/1999	22	—	<0.00040	0.738	190	159	—	—	-0.04	2640
	NDJ-719	10/19/1999	14	—	<0.00040	—	141	148	—	—	0.19	2310
	NDJ-233	11/16/1999	35	—	<0.00040	—	137	164	—	—	0.80	2630
T6-D	NDJ-721	10/20/1999	—	—	0.00081	—	184	136	—	—	—	—
	NDJ-306	11/17/1999	—	—	0.00085	—	183	143	—	—	—	2480
T99-01	NDF-771	07/30/1999	292	—	~0.0035	—	—	—	~0.0015	~0.0040	—	—
	NDF 775	10/14/1999	260	—	—	—	—	—	—	—	—	3340
T99-03	NDF-772	07/30/1999	—	—	<0.0010	—	—	—	~0.0057	~0.0040	—	—
	NDF 774	10/15/1999	—	—	—	—	—	—	—	—	—	8290
T99-05	NBC-997	07/28/1999	—	—	<0.0010	—	—	—	<0.0002	~0.00082	—	—
	NDG 413	10/14/1999	293	—	—	—	—	—	—	—	—	727
^a A "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit). A "~" indicates an estimated value. An "R" indicates results determined using EPA Method 00-02-01; a method for determining gross alpha (and gross beta) in drinking water using coprecipitation.												
^b Results determined using EPA Method 00-02-01; a method for determining gross alpha (and gross beta) in drinking water using coprecipitation.												
^c Estimated												

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample	Ticket	Sample	Fe	Fluoride	Gross Alpha	Gross Alpha ^b	Gross Beta	Gross Beta ^b	K	Mg	Mn
Location	Number	Date	(mg/L)	(mg/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)	(mg/L)	(mg/L)	(mg/L)
31NE93-205	NDE 852	10/21/1999	0.729	0.0881	<6.17 ^c	—	<6.49	—	4.56	21.4	0.720
31SW93-200-1	NDE 853	10/22/1999	<0.0090	0.139	<4.98 ^c	—	<4.79	—	2.40	11.1	0.350
31SW93-200-2	NDE 869,NDG 419	10/27/1999	<0.0090	0.928	<6 ^c	1.73	<5.62	~2.92	3.25	6.56	0.0817
31SW93-200-3	NDE 871,NDG 418	10/27/1999	<0.009	0.568	<13.31	1.78	31.02	~2.42	19.5	95.2	0.100
31SW93-200-4	NDE 870,NDG 417	10/27/1999	0.122	0.846	~16.48	10.52	31.85	~6.55	18.8	151	0.025
82-07	NDF-769	01/28/1999	—	0.497	72.27	—	43.34	—	~4.72	53.2	<0.0010 ^c
82-08	NDE-706	04/13/1999	13.500	0.700	~113.7	—	47.20	—	8.84	145	0.716
	NDE-758	07/29/1999	9.170	<0.0360	72.63	—	46.47	—	8.07	125	0.409
	NDE 824	10/19/1999	0.0128	0.723	<11.6 ^c	—	28.68	—	8.49	122	0.0392
	NDE 825	10/19/1999	0.0125	0.699	~14.42	—	25.43	—	8.96	130	0.0408
82-20	NDE 872	10/27/1999	<0.009	0.264	~16.08	—	12.19	—	3.01	104	0.120
	NDE 873	10/27/1999	0.182	0.261	13.21	—	24.13	—	2.97	104	0.138
83-70	NDE-718	04/14/1999	0.348	~0.163	<3.65 ^c	—	4.54	—	~2.78	10.2	0.261
	NDE 864	10/26/1999	0.395	0.145	<4.83 ^c	—	6.6	—	2.60	11.1	0.277
88-85	NDF-765	01/27/1999	—	~0.386	490.9	—	226.1	—	14.8	97.4	~0.716
	NDE-761	08/05/1999	<0.0059	~0.479	294.44	—	187.49	—	18.9	105	0.499
	NDE 863	10/26/1999	<0.009	0.587	~326.2	—	177.01	—	18.4	96.6	0.360
92-05	NDE 816,NDG 473	10/13/1999	<0.009	0.192	<9.20 ^c	3.91	<9.89	~3.73	2.84	39.6	0.002
92-06	NDE 817,NDG 474	10/13/1999	0.146	0.113	<4.57 ^c	<1.15	5.03	<1.89 ^c	1.84	9.83	0.402
92-07	NDF-767	01/28/1999	—	0.477	552.5	—	246.5	—	18.9	54.8	~0.755
	NDF-768	01/28/1999	—	0.435	662.5	—	238.6	—	19.5	56.0	~0.818
	NDE-701	04/12/1999	~0.0153	0.429	~782.4	—	254.4	—	21.0	63.3	0.987
	NDE-760	08/05/1999	<0.0059	~0.443	678.97	—	340.84	—	25.9	84.8	0.0287
	NDE 865	10/27/1999	<0.0090	0.486	~364.73	—	200.23	—	25.2	76.4	0.0612
92-08	NDF-761	01/26/1999	—	~0.370	216.1	—	156.8	—	12.3	57.9	~1.120
	NDE-703	04/12/1999	<0.0050	0.281	~241.9	—	81.05	—	10.5	50.3	0.810
	NDE-751	07/28/1999	<0.0059	0.350	147.04	—	107.66	—	10.5	48.5	0.828
	NDE-752	07/28/1999	<0.0059	0.345	213.57	—	101.63	—	10.5	48.7	0.807
	NDE 861	10/26/1999	<0.0090	0.266	~182.17	—	112.05	—	12.4	63.6	1.100
92-09	NDE-712	04/13/1999	1.420	~0.218	~125.1	—	56.17	—	~1.20	87.1	0.123
	NDE-713	04/13/1999	1.270	~0.183	~132.9	—	63.28	—	~1.04	88.1	0.105
	NBC-999	07/28/1999	1.560	—	—	—	—	—	—	—	0.131
	NDE 859	10/26/1999	1.560	0.186	~147.02	—	84.92	—	1.25	92.9	0.126
92-10	NDE-716	04/14/1999	0.387	~0.150	<4.30 ^c	—	4.97	—	~2.81	12.7	0.335
	NDE-717	04/14/1999	0.384	~0.147	<4.31 ^c	—	5.06	—	~2.79	12.6	0.331
	NDE 860	10/26/1999	0.501	0.122	<5.42 ^c	—	<4.87	—	2.55	13.3	0.346
92-11	NDF-754	01/25/1999	—	0.680	994.6	—	398.7	—	36.1	78.1	~5.380
	NDE-709	04/13/1999	~0.0097	0.429	~807.1	—	380.3	—	37.5	116	6.340
	NDE-754	07/29/1999	<0.0059	0.455	639.31	—	455.28	—	32.1	104	5.610

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample	Ticket	Sample	Fe	Fluoride	Gross Alpha	Gross Alpha ^b	Gross Beta	Gross Beta ^b	K	Mg	Mn
Location	Number	Date	(mg/L)	(mg/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)	(mg/L)	(mg/L)	(mg/L)
	NDE 829	10/20/1999	<0.009	0.578	~643.07	—	322.46	—	34.2	98.7	4.810
92-12	NDE-720,NDE-721	04/21/1999	<0.0050	0.551	<5.07 ^c	3.83	<4.59	<2.51	~3.56	9.94	~0.0014
	NDE 828,NDG 415	10/20/1999	<0.009	0.425	<5.78 ^c	4.01	<5.21	<1.92 ^c	3.48	9.96	<0.0008
92-13	NDE 830,NDG 416	10/20/1999	0.0179	0.804	<5.32 ^c	5.8	5.58	~2.08	3.11	3.53	0.0093
93-01	NDE 866	10/27/1999	<0.0090	0.122	<4.73 ^c	—	<4.76	—	2.06	11.1	0.387
95-01	NDE-710	04/13/1999	0.684	0.257	<2.26 ^c	—	3.08	—	~2.93	11.1	0.200
	NDE 854	10/25/1999	0.673	0.265	<4.67 ^c	—	<4.76	—	2.96	11.3	0.210
95-02	NDE 855	10/25/1999	0.565	0.269	<3.95 ^c	—	<3.65	—	2.85	11.0	0.205
95-03	NDE-711	04/13/1999	1.370	~0.169	<10.20 ^c	—	<9.83	—	~3.24	52.6	0.367
	NBC-998	07/28/1999	<0.0059	—	—	—	—	—	—	—	0.374
	NDE 856	10/25/1999	1.290	0.217	<11.7 ^c	—	13.53	—	3.26	52.5	0.361
	NDE 857	10/25/1999	1.370	0.220	<11.53 ^c	—	<11.95	—	3.17	55.2	0.378
95-04	NDE 858	10/25/1999	1.460	0.187	<11.97 ^c	—	<11.94	—	3.44	55.8	0.430
95-06	NDE-719	04/14/1999	0.378	~0.151	~55.35	—	23.86	—	7.35	60.3	0.427
	NDE 851	10/21/1999	0.289	0.121	~37.39	—	28.68	—	7.60	59.7	0.448
95-07	NDE 819,NDG 414	10/18/1999	0.0219	2.780	<13.20 ^c	2.58	12.1	~3.81	6.38	3.19	0.0079
95-08	NDJ 851	10/21/1999	<0.009	0.878	<4.32 ^c	—	4.95	—	3.61	8.51	0.0436
GB1126T	NDF-251	02/23/1999	—	—	—	—	—	—	—	—	1.450
	NDE-745	04/14/1999	<0.0050	—	—	—	—	—	~2.91	161	0.190
	NDG-471	07/29/1999	<0.0059	—	—	—	—	—	—	—	0.878
	NDG 475	10/14/1999	—	—	—	—	—	—	—	—	—
GB2820T	NDF-252	02/23/1999	—	—	—	—	—	—	—	—	0.0193
	NDE-743	04/13/1999	0.144	—	—	—	—	—	17.6	206	0.0643
	NDG-470	07/29/1999	0.245	—	—	—	—	—	—	—	0.0252
GB3127T	NDE-744	04/14/1999	~0.0708	—	—	—	—	—	7.17	59.8	0.0400
P92-02	NDE-715	04/14/1999	0.628	~0.373	~31.33	—	<17.48	—	~1.97	147	0.173
	NDF-770	07/28/1999	0.859	—	—	—	—	—	—	—	0.183
	NDE 821	10/18/1999	0.664	0.347	~21.16	—	34.62	—	2.20	144	0.170
P92-03	NDE 820	10/18/1999	0.433	0.317	~69.1	—	60.96	—	4.95	110	0.185
P92-04	NDF-759	01/26/1999	—	0.489	<18.32	—	<16.25	—	~2.32	102	<0.0010 ^c
	NDE-705	04/12/1999	<0.0050	0.332	<15.78 ^c	—	<14.84	—	~1.94	81.6	<0.0010
	NDE-755	07/29/1999	0.265	0.365	18.4	—	<17.01	—	~1.93	88.7	~0.0019
	NDE 823	10/19/1999	<0.009	0.359	~19.99	—	19.72	—	2.27	92.6	0.00097
P92-05	NDF-760	01/26/1999	—	0.723	—	—	—	—	~4.10	150	~0.121
	NDE-704	04/13/1999	0.126	0.546	<21.58 ^c	—	21.61	—	~3.95	107	0.0270
	NDE-753	07/28/1999	<0.0059	0.707	<20.36	—	<22.56	—	~4.96	81.1	~0.0073
	NDE 822	10/19/1999	0.0885	0.692	~23.15	—	24.87	—	4.59	112	0.0329
P92-06	NDF-763	01/27/1999	—	0.466	586.9	—	244.1	—	6.56	109	~0.0013

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample Location	Ticket Number	Sample Date	Fe (mg/L)	Fluoride (mg/L)	Gross Alpha (pCi/L)	Gross Alpha ^b (pCi/L)	Gross Beta (pCi/L)	Gross Beta ^b (pCi/L)	K (mg/L)	Mg (mg/L)	Mn (mg/L)
	NDE-702	04/12/1999	~0.0279	~0.184	~776.3	--	245.9	--	6.43	119	~0.0013
	NDE-757	07/29/1999	<0.0059	~0.647	915.06	--	399.22	--	7.69	137	<0.00090
	NDE 818	10/15/1999	<0.009	0.184	~800	--	407.16	--	9.40	145	0.0013
P92-07	NDF-764	01/27/1999	--	~0.362	--	--	--	--	~2.62	91.4	~0.0169
	NDE-707	04/15/1999	<0.0050	0.384	--	--	--	--	~2.09	76.6	0.0265
	NDE-746	08/05/1999	~0.0606	--	--	--	--	--	~1.95	69.3	0.0209
	NDE 827	10/20/1999	--	--	--	--	--	--	--	--	--
P92-09	NDF-753	01/25/1999	--	0.873	36.18	--	34.43	--	~1.71	150	~0.0225
	NDE-708	04/13/1999	0.221	0.621	~47.22	--	<23.80	--	~1.48	147	0.0368
	NDE-756	07/29/1999	0.143	0.520	45.63	--	<27.46	--	~1.49	143	~0.0087
	NDE 826	10/19/1999	0.0294	0.450	~20.62	--	28.16	--	1.70	120	0.010
R1-M1	NDE-997	09/14/1999	<0.0090	--	--	--	--	--	26.6	84.6	0.872
	NDJ-269	10/20/1999	--	--	--	--	--	--	--	--	--
	NDJ-303	11/17/1999	--	--	--	--	--	--	--	--	--
R1-M2	NDE-978	09/13/1999	<0.0090	--	--	--	--	--	24.7	90.8	0.596
	NDJ-260	10/20/1999	<0.0090	--	--	--	--	--	21.5	74.2	0.648
	NDJ-261	10/20/1999	<0.0090	--	--	--	--	--	20.5	78.4	0.678
	NDJ-250	11/17/1999	<0.0090	--	--	--	--	--	24.2	67.6	0.660
R1-M3	NDE-987	09/14/1999	<0.0090	--	--	--	--	--	21.8	88.0	0.608
	NDJ-725	10/20/1999	<0.0090	--	--	--	--	--	18.9	69.1	0.516
	NDJ-248	11/17/1999	<0.0090	--	--	--	--	--	21.8	70.4	0.496
	NDJ-249	11/17/1999	<0.0090	--	--	--	--	--	22.0	69.9	0.488
R1-M4	NDE-962	09/13/1999	--	--	--	--	--	--	12.7	106	--
	NDE-948	10/19/1999	--	--	--	--	--	--	13.3	96.6	--
	NDJ-242	11/17/1999	--	--	--	--	--	--	12.9	80.9	--
R1-M5	NDE-953	09/13/1999	--	--	--	--	--	--	--	--	--
	NDE-938	10/18/1999	--	--	--	--	--	--	--	--	--
	NDJ-278	11/16/1999	--	--	--	--	--	--	--	--	--
R2-M1	NDE-977	09/13/1999	2.070	--	--	--	--	--	16.6	58.3	0.613
	NDJ-267	10/20/1999	--	--	--	--	--	--	--	--	--
	NDJ-293	11/16/1999	--	--	--	--	--	--	--	--	--
R2-M2	NDE-979	09/13/1999	5.190	--	--	--	--	--	17.4	82.2	0.879
	NDJ-262	10/20/1999	2.720	--	--	--	--	--	15.8	65.2	0.350
	NDJ-294	11/17/1999	3.180	--	--	--	--	--	20.7	65.6	0.315
R2-M3	NDE-984	09/13/1999	6.220	--	--	--	--	--	17.6	79.3	1.000
	NDJ-257	10/20/1999	--	--	--	--	--	--	--	--	--
	NDJ-300	11/17/1999	--	--	--	--	--	--	--	--	--
R2-M4	NDE-988	09/14/1999	3.330	--	--	--	--	--	13.9	69.8	0.667
	NDJ-251	10/20/1999	2.270	--	--	--	--	--	12.9	57.2	0.547
	NDJ-238	11/16/1999	0.617	--	--	--	--	--	14.7	53.4	0.148

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Fe (mg/L)	Fluoride (mg/L)	Gross Alpha (pCi/L)	Gross Alpha ^b (pCi/L)	Gross Beta (pCi/L)	Gross Beta ^b (pCi/L)	K (mg/L)	Mg (mg/L)	Mn (mg/L)
R2-M5	NDE-993	09/14/1999	9.990	—	—	—	—	—	14.6	77.3	1.650
	NDJ-722	10/19/1999	—	—	—	—	—	—	—	—	—
	NDJ-237	11/16/1999	—	—	—	—	—	—	—	—	—
R2-M6	NDE-968	09/14/1999	—	—	—	—	—	—	—	—	—
	NDJ-708	10/19/1999	—	—	—	—	—	—	—	—	—
	NDJ-245	11/17/1999	—	—	—	—	—	—	—	—	—
R2-M7	NDE-963	09/13/1999	—	—	—	—	—	—	17.2	99.3	—
	NDE-949	10/19/1999	—	—	—	—	—	—	16.3	82.5	—
	NDJ-288	11/16/1999	—	—	—	—	—	—	17.7	82.7	—
R2-M8	NDE-959	09/13/1999	—	—	—	—	—	—	—	—	—
	NDE-945	10/18/1999	—	—	—	—	—	—	—	—	—
	NDJ-284	11/16/1999	—	—	—	—	—	—	—	—	—
R2-M9	NDE-954	09/13/1999	—	—	—	—	—	—	—	—	—
	NDE-939	10/18/1999	—	—	—	—	—	—	—	—	—
	NDJ-279	11/16/1999	—	—	—	—	—	—	—	—	—
R2-M10	NDE-952	09/13/1999	—	—	—	—	—	—	—	—	—
	NDE-936	10/18/1999	—	—	—	—	—	—	—	—	—
	NDJ-276	11/16/1999	—	—	—	—	—	—	—	—	—
R3-M1	NDE-980	09/13/1999	5.430	—	—	—	—	—	17.7	84.4	1.550
	NDJ-263	10/20/1999	4.120	—	—	—	—	—	18.7	64.5	0.347
	NDJ-296	11/17/1999	4.130	—	—	—	—	—	21.6	66.6	0.379
R3-M2	NDE-989	09/14/1999	2.310	—	—	—	—	—	14.7	72.1	0.700
	NDJ-252	10/20/1999	3.990	—	—	—	—	—	13.1	60.3	0.881
	NDJ-239	11/16/1999	0.503	—	—	—	—	—	16.0	57.3	0.249
R3-M3	NDE-964	09/13/1999	—	—	—	—	—	—	16.6	100	—
	NDE-950	10/19/1999	—	—	—	—	—	—	18.5	94.2	—
	NDJ-243	11/17/1999	—	—	—	—	—	—	17.5	82.6	—
R3-M4	NDE-955	09/13/1999	—	—	—	—	—	—	—	—	—
	NDE-940	10/18/1999	—	—	—	—	—	—	—	—	—
	NDJ-280	11/16/1999	—	—	—	—	—	—	—	—	—
R4-M1	NDE-981	09/13/1999	0.149	—	—	—	—	—	18.9	83.9	1.050
	NDJ-264	10/20/1999	0.130	—	—	—	—	—	18.5	55.7	0.257
	NDJ-297	11/17/1999	0.0834	—	—	—	—	—	22.1	62.4	0.246
R4-M2	NDE-985	09/13/1999	0.950	—	—	—	—	—	18.4	80.4	1.120
	NDJ-258	10/20/1999	—	—	—	—	—	—	—	—	—
	NDJ-301	11/17/1999	—	—	—	—	—	—	—	—	—
R4-M3	NDE-990	09/14/1999	0.0853	—	—	—	—	—	14.1	71.9	0.392
	NDJ-253	10/20/1999	0.113	—	—	—	—	—	13.0	47.4	0.383
	NDJ-240	11/16/1999	<0.0090	—	—	—	—	—	16.2	52.8	0.306
R4-M4	NDE-994	09/14/1999	0.162	—	—	—	—	—	15.0	69.2	0.717

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Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Fe (mg/L)	Fluoride (mg/L)	Gross Alpha (pCi/L)	Gross Alpha ^b (pCi/L)	Gross Beta (pCi/L)	Gross Beta ^b (pCi/L)	K (mg/L)	Mg (mg/L)	Mn (mg/L)
R5-M9	NDE-957	09/13/1999	--	--	--	--	--	--	--	--	--
	NDE-943	10/18/1999	--	--	--	--	--	--	--	--	--
	NDJ-282	11/16/1999	--	--	--	--	--	--	--	--	--
R5-M10	NDE-951	09/13/1999	--	--	--	--	--	--	--	--	--
	NDE-937	10/18/1999	--	--	--	--	--	--	--	--	--
	NDJ-277	11/16/1999	--	--	--	--	--	--	--	--	--
R6-M2	NDE-983	09/13/1999	0.0224	--	--	--	--	--	17.6	75.9	1.470
	NDJ-266	10/20/1999	<0.0090	--	--	--	--	--	16.7	49.4	0.868
	NDJ-299	11/17/1999	<0.0090	--	--	--	--	--	20.2	48.7	0.789
R6-M3	NDE-992	09/14/1999	0.0448	--	--	--	--	--	21.2	72.8	3.420
	NDJ-255	10/20/1999	<0.0090	--	--	--	--	--	17.1	68.8	5.590
R6-M4	NDE-967	09/14/1999	0.279	--	--	--	--	--	14.8	78.7	3.330
	NDJ-707	10/19/1999	0.0477	--	--	--	--	--	16.0	62.8	0.791
	NDJ-291	11/16/1999	0.0434	--	--	--	--	--	17.9	64.7	0.697
R6-M5	NDE-958	09/13/1999	<0.009	--	--	--	--	--	--	--	6.090
	NDE-944	10/18/1999	<0.0090	--	--	--	--	--	--	--	2.710
	NDJ-283	11/16/1999	<0.0090	--	--	--	--	--	--	--	3.200
R7-M1	NDJ-705	09/14/1999	0.0402	--	--	--	--	--	24.5	71.4	4.160
R9-M1	NDJ-704	09/14/1999	<0.0090	--	--	--	--	--	17.1	69.0	1.660
	NDJ-270	11/17/1999	--	--	--	--	--	--	--	--	--
R10-M1	NDJ-702	09/14/1999	<0.0090	--	--	--	--	--	13.7	72.4	0.797
	NDJ-271	10/21/1999	<0.0090	--	--	--	--	--	12.2	58.4	0.899
	NDJ-304	11/17/1999	0.975	--	--	--	--	--	13.9	58.0	0.905
R11-M1	NDJ-701	09/14/1999	<0.0090	--	--	--	--	--	14.9	84.5	3.170
	NDJ-305	11/17/1999	--	--	--	--	--	--	--	--	--
T1-D	NDE-971	09/14/1999	<0.0090	--	--	--	--	--	18.9	91.2	0.289
	NDE-972	09/14/1999	<0.0090	--	--	--	--	--	--	--	0.293
	NDJ-712	10/19/1999	<0.0090	--	--	--	--	--	19.0	68.5	0.291
	NDJ-247	11/17/1999	<0.0090	--	--	--	--	--	20.8	72.3	0.315
T1-S	NDE-974	09/14/1999	<0.0090	--	--	--	--	--	19.1	90.7	0.0530
	NDJ-711	10/19/1999	0.144	--	--	--	--	--	18.1	65.7	0.104
	NDJ-246	11/17/1999	<0.0090	--	--	--	--	--	20.5	73.5	0.110
T2-D	NDE-975	09/14/1999	13.400	--	--	--	--	--	17.0	83.5	0.622
	NDJ-714	10/19/1999	8.780	--	--	--	--	--	17.0	69.3	0.374
	NDJ-227	11/16/1999	13.100	--	--	--	--	--	17.9	75.9	0.526
T2-S	NDE-926	09/14/1999	3.730	--	--	--	--	--	16.9	50.1	0.250
	NDJ-713	10/19/1999	9.340	--	--	--	--	--	16.7	68.2	0.313
	NDJ-226	11/16/1999	13.800	--	--	--	--	--	18.0	78.3	0.459
T3-D	NDE-927	09/14/1999	35.300	--	--	--	--	--	17.2	93.5	0.749
	NDJ-716	10/19/1999	21.600	--	--	--	--	--	17.6	80.5	0.703

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample Location	Ticket Number	Sample Date	Fe (mg/L)	Fluoride (mg/L)	Gross Alpha (pCi/L)	Gross Alpha ^b (pCi/L)	Gross Beta (pCi/L)	Gross Beta ^b (pCi/L)	K (mg/L)	Mg (mg/L)	Mn (mg/L)
	NDJ-229	11/16/1999	23.700	--	--	--	--	--	18.2	81.2	0.611
	NDJ-230	11/16/1999	22.600	--	--	--	--	--	18.1	81.5	0.608
T3-S	NDE-928	09/14/1999	<0.0090	--	--	--	--	--	16.3	49.0	0.141
	NDJ-715	10/19/1999	7.860	--	--	--	--	--	15.1	73.1	1.070
	NDJ-228	11/16/1999	16.100	--	--	--	--	--	15.6	81.8	0.855
T4-D	NDE-929	09/14/1999	0.188	--	--	--	--	--	17.5	91.1	0.270
	NDE-930	09/14/1999	0.303	--	--	--	--	--	--	--	0.272
	NDJ-718	10/19/1999	2.940	--	--	--	--	--	17.0	75.7	0.550
	NDJ-231	11/16/1999	15.400	--	--	--	--	--	17.5	82.6	0.683
T4-S	NDE-931	09/14/1999	0.195	--	--	--	--	--	14.5	54.2	0.562
	NDE-932	09/14/1999	0.0940	--	--	--	--	--	--	--	0.525
	NDJ-717	10/19/1999	0.114	--	--	--	--	--	15.3	56.1	0.193
	NDJ-232	11/16/1999	0.115	--	--	--	--	--	15.6	84.9	0.235
T5-D	NDE-933	09/14/1999	<0.0090	--	--	--	--	--	18.5	88.3	0.122
	NDJ-720	10/19/1999	<0.0090	--	--	--	--	--	17.0	75.1	0.172
	NDJ-234	11/16/1999	1.060	--	--	--	--	--	17.3	77.6	1.060
T5-S	NDE-934	09/14/1999	0.335	--	--	--	--	--	15.5	55.8	0.569
	NDJ-719	10/19/1999	0.187	--	--	--	--	--	15.6	51.8	0.312
	NDJ-233	11/16/1999	0.101	--	--	--	--	--	16.7	70.9	0.266
T6-D	NDJ-721	10/20/1999	<0.0090	--	--	--	--	--	11.5	48.8	1.120
	NDJ-306	11/17/1999	<0.0090	--	--	--	--	--	14.2	44.3	0.370
T99-01	NDF-771	07/30/1999	<0.0059	--	--	--	--	--	--	--	0.0483
	NDF 775	10/14/1999	--	--	--	--	--	--	--	--	--
T99-03	NDF-772	07/30/1999	-0.0660	--	--	--	--	--	--	--	1.030
	NDF 774	10/15/1999	--	--	--	--	--	--	--	--	--
T99-05	NBC-997	07/28/1999	<0.0059	--	--	--	--	--	--	--	0.559
	NDG 413	10/14/1999	--	--	--	--	--	--	--	--	--
^a A "<" indicates that the maximum concentration was ates that the result was determined unusable through data validation. All samples were filtered in the field u											
^b Results determined using EPA Method 00-02-01; a m											
^c Estimated											

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Mo (mg/L)	Na (mg/L)	NO ₃ (mg/L)	NO ₃ +NO ₂ As N (mg/L)	ORP (mV)	Pb (mg/L)	Pb-210 (pCi/L)	pH (s.u.)	Ra-226 (pCi/L)	Rn-222 (pCi/L)	Se (mg/L)
31NE93-205	NDE 852	10/21/1999	<0.0008	90.8	—	<0.012	-75	<0.0003	<0.27	6.45	1.53	113	<0.0001
31SW93-200-1	NDE 853	10/22/1999	<0.0008	45.7	—	<0.0120	4	<0.0003	<0.27	7.31	4.8	120	<0.0001
31SW93-200-2	NDE 869,NDG 419	10/27/1999	0.0048	189	—	0.0507	-40	<0.0003	<0.26	7.33	1.61	51	<0.0001
31SW93-200-3	NDE 871,NDG 418	10/27/1999	<0.0008	909	—	3.320	103	<0.0003	<0.26	6.72	<0.41	43	0.00063
31SW93-200-4	NDE 870,NDG 417	10/27/1999	<0.0008	404	—	7.950	17	<0.0003	<0	6.61	<0.5	71	0.0041
82-07	NDF-769	01/28/1999	~0.0270	68.5	—	~0.725	—	<0.0010	~0.40	6.97	<0.16	1030	0.0125
82-08	NDE-706	04/13/1999	0.0126	259	—	1.440	14	<0.0010	0.57	6.59	11.85	343	0.0121
	NDE-758	07/29/1999	~0.0075	216	—	~2.910	56	<0.00020	<0.25 ^c	6.56	5.35	~805	~0.0054
	NDE 824	10/19/1999	0.0045	186	—	4.120	-38	<0.0003	<0.27	6.13	2.73	~947	0.0045
	NDE 825	10/19/1999	0.0044	198	—	4.130	—	<0.0003	0.28	—	2.95	~1045	0.0049
82-20	NDE 872	10/27/1999	0.0011	82.6	—	1.010	97	<0.0003	<0.3	6.41	<0.40	560	0.0038
	NDE 873	10/27/1999	0.00098	82.7	—	1.030	—	<0.0003	<0.27	—	<0.38	820	0.0038
83-70	NDE-718	04/14/1999	<0.0020	64.8	—	~0.0828	-145	<0.0010	<0.22	7.33	1.66	326	<0.0010
	NDE 864	10/26/1999	<0.0008	62.8	—	0.0363	-97	<0.0003	<0.3	7.21	1.49	253	<0.0001
88-85	NDF-765	01/27/1999	0.0781	331	—	~10.100	—	<0.0010	~0.50	7.02	<0.16	894	0.0157
	NDE-761	08/05/1999	~0.0589	327	—	~15.500	152	<0.00020	0.55	6.33	<0.33	~1507	0.0651
	NDE 863	10/26/1999	0.0534	336	—	19.200	90	<0.0003	0.53	6.31	<0.61	1584	0.0329
92-05	NDE 816,NDG 473	10/13/1999	<0.0008	38.8	—	0.763	84	<0.0003	<0.28	—	<0.18	468	0.00094
92-06	NDE 817,NDG 474	10/13/1999	<0.0008	30.3	—	<0.012	-11	<0.0003	<0.27	—	1.32	96	<0.0001
92-07	NDF-767	01/28/1999	0.122	218	—	~3.200	—	<0.0010	~0.43	6.68	<0.17	551	0.0141
	NDF-768	01/28/1999	0.125	224	—	~3.210	—	<0.0010	~0.47	—	<0.12	563	0.0140
	NDE-701	04/12/1999	0.133	292	—	5.830	237	<0.0010	0.45	6.75	0.72	542	0.0148
	NDE-760	08/05/1999	~0.0710	340	—	~14.600	151	<0.00020	0.84	6.73	<0.27	~989	0.0542
	NDE 865	10/27/1999	0.0749	382	—	26.000	109	<0.0003	<0.26	6.45	<0.44	838	0.009
92-08	NDF-761	01/26/1999	0.0749	186	—	~0.729	—	<0.0010	~0.42	6.93	<0.23	984	0.0143
	NDE-703	04/12/1999	0.0631	169	—	1.140	199	<0.0010	0.42	7.37	<0.20	1136	0.0266
	NDE-751	07/28/1999	0.0597	148	—	~1.570	73	<0.00020	~0.68	6.88	<0.20	~1120	~0.0348
	NDE-752	07/28/1999	0.0584	150	—	~1.470	—	<0.00020	~0.32	—	<0.14	~1143	~0.0342
	NDE 861	10/26/1999	0.0679	154	—	0.892	112	<0.0003	0.3	6.61	<0.56	977	0.0314
92-09	NDE-712	04/13/1999	~0.0034	185	—	<0.0040	7	<0.0010	<0.24	7.28	<0.20	514	<0.0010
	NDE-713	04/13/1999	~0.0033	185	—	~0.0594	—	<0.0010	<0.25	—	<0.20	498	<0.0010
	NBC-999	07/28/1999	~0.0033	—	—	—	—	<0.00020	—	6.61	—	—	<0.0010
	NDE 859	10/26/1999	0.0015	190	—	0.0162	-89	<0.0003	<0.3	6.72	<0.99	498	0.0001
92-10	NDE-716	04/14/1999	<0.0020	57.4	—	~0.0347	-156	<0.0010	<0.24	7.19	1.69	161	<0.0010
	NDE-717	04/14/1999	<0.0020	56.7	—	0.321	—	<0.0010	<0.23	—	1.63	155	<0.0010
	NDE 860	10/26/1999	<0.0008	54.6	—	<0.012	-160	<0.0003	<0.25	7.21	1.93	175	<0.0001
92-11	NDF-754	01/25/1999	0.188	334	—	~7.880	—	<0.0010	~0.45	6.69	<0.19	1028	0.0193
	NDE-709	04/13/1999	0.137	333	—	20.600	185	<0.0010	0.40	6.77	<0.15	778	0.0499
	NDE-754	07/29/1999	0.110	324	—	~16.900	163	<0.00020	~0.48	6.77	<0.23	~672	~0.0490

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Mo (mg/L)	Na (mg/L)	NO ₃ (mg/L)	NO ₃ +NO ₂ As N (mg/L)	ORP (mV)	Pb (mg/L)	Pb-210 (pCi/L)	pH (s.u.)	Ra-226 (pCi/L)	Rn-222 (pCi/L)	Se (mg/L)
	NDE 829	10/20/1999	0.115	336	—	15.500	-34	<0.0003	<0.28	6.66	<0.5	~992	0.0546
92-12	NDE-720,NDE-721	04/21/1999	0.0320	137	—	0.840	—	<0.0010	<0.25	7.63	<0.35	<20	~0.0024
	NDE 828,NDG 415	10/20/1999	0.0261	124	—	0.632	—	<0.0003	<0.28	8.21	<0.49	~60	0.002
92-13	NDE 830,NDG 416	10/20/1999	0.0268	138	—	0.872	—	0.0012	<0.3	—	<0.89	~146	0.00052
93-01	NDE 866	10/27/1999	<0.0008	39.7	—	0.0388	6	<0.0003	<0.25	7.28	<1.02	145	0.00014
95-01	NDE-710	04/13/1999	~0.0025	77.7	—	~0.104	11	<0.0010	0.31	7.32	1.57	1039	<0.0010
	NDE 854	10/25/1999	<0.0008	73.7	—	0.0121	-80	<0.0003	<0.27	6.86	1.74	1498	<0.0001
95-02	NDE 855	10/25/1999	<0.0008	72.4	—	<0.012	-120	<0.0003	<0.27	6.96	1.1	219	<0.0001
95-03	NDE-711	04/13/1999	~0.0067	118	—	~0.0901	-36	<0.0010	<0.24	7.67	<0.24	191	<0.0010
	NBC-998	07/28/1999	~0.0055	—	—	—	—	~0.00059	—	7.02	—	—	<0.0010
	NDE 856	10/25/1999	0.004	107	—	<0.012	-100	<0.0003	<0.27	6.84	2.29	221	<0.0001
	NDE 857	10/25/1999	0.0041	109	—	<0.012	—	<0.0003	<0.25	—	2.66	207	<0.0001
95-04	NDE 858	10/25/1999	0.005	120	—	<0.012	-125	<0.0003	<0.25	6.82	2.05	128	<0.0001
95-06	NDE-719	04/14/1999	~0.0028	243	—	0.111	-13	<0.0010	<0.23	6.90	0.90	44	<0.0010
	NDE 851	10/21/1999	0.0012	225	—	<0.0120	-10	<0.0003	<0.27	6.47	1.43	126	<0.0001
95-07	NDE 819,NDG 414	10/18/1999	<0.0008	590	—	0.0126	-113	0.00041	<0.28	7.45	2.2	~23	<0.0001
95-08	NDJ 851	10/21/1999	<0.0008	95.5	—	<0.0120	-17	<0.0003	<0.27	7.54	0.96	204	<0.0001
GB1126T	NDF-251	02/23/1999	0.0106	—	—	—	—	0.0062	—	—	—	—	0.00078
	NDE-745	04/14/1999	0.117	498	—	—	—	<0.0010	—	—	—	—	~0.0015
	NDG-471	07/29/1999	~0.0136	—	—	—	—	<0.00020	—	—	—	—	<0.0010
	NDG 475	10/14/1999	—	—	—	—	—	—	—	—	—	—	—
GB2820T	NDF-252	02/23/1999	0.0055	—	—	—	—	<0.0010	—	—	—	—	0.0527
	NDE-743	04/13/1999	~0.0085	608	—	—	—	0.0050	—	—	—	—	0.0951
	NDG-470	07/29/1999	~0.0062	—	—	—	—	~0.0025	—	—	—	—	0.0644
GB3127T	NDE-744	04/14/1999	~0.0076	184	—	—	—	~0.0024	—	—	—	—	0.0264
P92-02	NDE-715	04/14/1999	~0.0034	271	—	0.221	15	<0.0010	<0.25	7.37	<0.16	460	~0.0021
	NDF-770	07/28/1999	~0.0028	—	—	—	—	<0.00020	—	6.76	—	—	~0.0014
	NDE 821	10/18/1999	0.0019	240	—	0.0792	-158	<0.0003	<0.28	6.72	<0.56	~346	0.0011
P92-03	NDE 820	10/18/1999	0.0131	237	—	0.439	-132	<0.0003	<0.28	—	<0.56	~544	0.0045
P92-04	NDF-759	01/26/1999	<0.0010	170	—	~2.500	—	<0.0010	<0.28 ^c	7.09	<0.14	741	~0.0042
	NDE-705	04/12/1999	<0.0020	153	—	0.844	213	<0.0010	0.32	6.75	<0.16	656	~0.0024
	NDE-755	07/29/1999	<0.0009	146	—	~1.860	130	<0.00020	<0.24 ^c	6.65	<0.12	~718	~0.0030
	NDE 823	10/19/1999	<0.0008	148	—	1.890	14	<0.0003	<0	6.48	<0.27	~634	0.002
P92-05	NDF-760	01/26/1999	~0.0032	285	—	~1.090	—	<0.0010	—	7.13	—	—	0.0259
	NDE-704	04/13/1999	~0.0027	258	—	2.230	233	<0.0010	<0.26	7.78	0.73	—	0.0327
	NDE-753	07/28/1999	<0.0009	250	—	~3.900	-65	<0.00020	<0.25 ^c	6.59	<0.26	~415	0.0151
	NDE 822	10/19/1999	<0.0008	244	—	2.000	-151	<0.0003	<0.29	6.80	<0.31	~382	0.0112
P92-06	NDF-763	01/27/1999	~0.0184	489	—	~16.300	—	<0.0010	~3.48	6.72	<0.16	1442	0.0107

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample	Ticket	Sample	Mo	Na	NO ₃	NO ₃ +NO ₂ As N	ORP	Pb	Pb-210	pH	Ra-226	Rn-222	Se
Location	Number	Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mV)	(mg/L)	(pCi/L)	(s.u.)	(pCi/L)	(pCi/L)	(mg/L)
	NDE-702	04/12/1999	0.0206	512	—	22.300	238	<0.0010	0.65	6.89	<0.12	1297	0.0158
	NDE-757	07/29/1999	-0.0167	555	—	-26.300	99	<0.00020	-0.67	6.57	<0.18	~1396	0.0192
	NDE 818	10/15/1999	0.0179	579	—	29.900	-22	<0.0003	0.46	6.60	<0.51	1160	0.0283
P92-07	NDF-764	01/27/1999	-0.0050	295	—	-9.500	—	<0.0010	—	7.18	—	159	-0.0022
	NDE-707	04/15/1999	-0.0035	267	—	4.250	202	<0.0010	—	7.01	<0.19	—	-0.0019
	NDE-746	08/05/1999	<0.0009	243	—	—	76	<0.00020	—	6.74	—	—	<0.0010
	NDE 827	10/20/1999	—	—	—	—	33	—	—	6.46	—	—	—
P92-09	NDF-753	01/25/1999	-0.0204	333	—	-3.950	—	<0.0010	-0.31	7.03	<0.25	599	0.0064
	NDE-708	04/13/1999	0.0196	328	—	4.810	-54	<0.0010	<0.25	7.26	<0.14	627	0.0082
	NDE-756	07/29/1999	-0.0172	314	—	-7.570	-31	<0.00020	<0.26 ^c	6.96	<0.17	~606	-0.0087
	NDE 826	10/19/1999	0.0158	284	—	12.200	-113	<0.0003	<0.3	6.77	<0.32	~664	0.0093
R1-M1	NDE-997	09/14/1999	0.0911	345	—	—	194	—	—	6.59	—	—	0.0147
	NDJ-269	10/20/1999	0.102	—	—	—	-46	—	—	6.50	—	—	0.0081
	NDJ-303	11/17/1999	0.0975	—	—	—	-1	—	—	6.53	—	—	0.0046
R1-M2	NDE-978	09/13/1999	-0.0763	351	107.000	—	-14	—	—	6.61	0.35	—	0.0175
	NDJ-260	10/20/1999	0.0917	332	121.000	—	184	—	—	6.36	—	—	0.0093
	NDJ-261	10/20/1999	0.0902	332	121.000	—	—	—	—	—	—	—	0.0098
	NDJ-250	11/17/1999	0.0876	351	122.000	—	9	—	—	6.54	—	—	0.0038
R1-M3	NDE-987	09/14/1999	-0.0675	347	114.000	—	211	—	—	6.72	—	—	0.0149
	NDJ-725	10/20/1999	0.0707	326	118.000	—	159	—	—	6.51	—	—	0.0110
	NDJ-248	11/17/1999	0.0732	350	119.000	—	21	—	—	6.59	—	—	0.0061
	NDJ-249	11/17/1999	0.0712	354	116.000	—	21	—	—	6.59	—	—	0.0061
R1-M4	NDE-962	09/13/1999	0.0423	315	71.100	—	-100	—	—	6.53	—	—	0.0518
	NDE-948	10/19/1999	0.0428	318	87.000	—	158	—	—	6.52	—	—	0.0356
	NDJ-242	11/17/1999	0.0430	280	62.100	—	70	—	—	6.88	—	—	0.0243
R1-M5	NDE-953	09/13/1999	0.0491	—	—	—	-121	—	—	6.64	0.25	—	0.0546
	NDE-938	10/18/1999	0.0471	—	—	—	-73	—	—	6.59	—	—	0.0368
	NDJ-278	11/16/1999	0.0481	—	—	—	113	—	—	7.02	—	—	0.0196
R2-M1	NDE-977	09/13/1999	-0.0180	331	—	—	-368	—	—	8.54	—	—	0.00030
	NDJ-267	10/20/1999	0.0214	—	—	—	-244	—	—	7.52	—	—	0.0038
	NDJ-293	11/16/1999	0.0207	—	—	—	-279	—	—	8.76	—	—	0.00060
R2-M2	NDE-979	09/13/1999	-0.0160	334	0.110	—	-331	—	—	8.19	—	—	0.0020
	NDJ-262	10/20/1999	0.0284	307	8.730	—	-203	—	—	7.64	—	—	0.0032
	NDJ-294	11/17/1999	0.0276	338	23.200	—	-235	—	—	8.08	—	—	0.0023
R2-M3	NDE-984	09/13/1999	0.0166	324	—	—	-285	—	—	7.74	—	—	0.0069
	NDJ-257	10/20/1999	0.0367	—	—	—	-245	—	—	7.58	—	—	0.0080
	NDJ-300	11/17/1999	0.0287	—	—	—	-208	—	—	7.82	—	—	0.0036
R2-M4	NDE-988	09/14/1999	-0.0188	320	9.550	—	-271	—	—	8.27	—	—	0.00048
	NDJ-251	10/20/1999	0.0198	301	1.920	—	-181	—	—	7.88	—	—	0.00063
	NDJ-238	11/16/1999	0.0218	322	2.410	—	-260	—	—	8.25	—	—	0.00036

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Mo (mg/L)	Na (mg/L)	NO ₃ (mg/L)	NO ₃ +NO ₂ As N (mg/L)	ORP (mV)	Pb (mg/L)	Pb-210 (pCi/L)	pH (s.u.)	Ra-226 (pCi/L)	Rn-222 (pCi/L)	Se (mg/L)
R2-M5	NDE-993	09/14/1999	0.0147	325	—	—	-288	—	—	7.92	—	—	0.00093
	NDJ-722	10/19/1999	0.0251	—	—	—	-227	—	—	7.42	—	—	0.0028
	NDJ-237	11/16/1999	0.0279	—	—	—	-183	—	—	7.07	—	—	0.0029
R2-M6	NDE-968	09/14/1999	0.0524	—	—	—	-86	—	—	6.60	—	—	0.0274
	NDJ-708	10/19/1999	0.0597	—	—	—	-96	—	—	6.61	—	—	0.0159
	NDJ-245	11/17/1999	0.0560	—	—	—	-28	—	—	6.64	—	—	0.0135
R2-M7	NDE-963	09/13/1999	0.0222	328	30.100	—	-179	—	—	6.82	—	—	0.0149
	NDE-949	10/19/1999	0.0321	315	44.700	—	-103	—	—	6.96	—	—	0.0132
	NDJ-288	11/16/1999	0.0495	323	71.400	—	-87	—	—	6.71	—	—	0.0171
R2-M8	NDE-959	09/13/1999	0.0084	—	—	—	-280	—	—	7.34	—	—	0.0021
	NDE-945	10/18/1999	0.0207	—	—	—	-241	—	—	7.38	—	—	0.0110
	NDJ-284	11/16/1999	0.0156	—	—	—	-192	—	—	7.55	—	—	0.0084
R2-M9	NDE-954	09/13/1999	0.0054	—	—	—	-265	—	—	7.29	—	—	0.00013
	NDE-939	10/18/1999	0.0100	—	—	—	-232	—	—	7.57	—	—	0.0035
	NDJ-279	11/16/1999	0.0108	—	—	—	-249	—	—	8.00	—	—	0.0022
R2-M10	NDE-952	09/13/1999	0.0092	—	—	—	-232	—	—	7.60	—	—	<0.00010
	NDE-936	10/18/1999	0.0078	—	—	—	-107	—	—	7.58	—	—	<0.00010
	NDJ-276	11/16/1999	0.0053	—	—	—	-254	—	—	8.24	—	—	0.00011
R3-M1	NDE-980	09/13/1999	-0.0099	330	0.0261	—	-345	—	—	8.09	—	—	0.00021
	NDJ-263	10/20/1999	0.0289	333	11.200	—	-241	—	—	7.65	—	—	0.0032
	NDJ-296	11/17/1999	0.0194	343	11.400	—	-205	—	—	7.93	—	—	0.00096
R3-M2	NDE-989	09/14/1999	-0.0161	326	1.980	—	-361	—	—	8.64	—	—	<0.00010
	NDJ-252	10/20/1999	0.0168	316	<0.0100	—	-284	—	—	8.18	—	—	<0.00010
	NDJ-239	11/16/1999	0.0218	336	0.217	—	-280	—	—	8.61	—	—	<0.00010
R3-M3	NDE-964	09/13/1999	0.0323	327	54.500	—	-153	—	—	6.76	—	—	0.0275
	NDE-950	10/19/1999	0.0435	364	75.800	—	-94	—	—	6.79	—	—	0.0210
	NDJ-243	11/17/1999	0.0458	323	66.100	—	-88	—	—	6.76	—	—	0.0175
R3-M4	NDE-955	09/13/1999	0.0024	—	—	—	-278	—	—	7.27	—	—	<0.00010
	NDE-940	10/18/1999	0.0057	—	—	—	-283	—	—	7.50	—	—	0.00030
	NDJ-280	11/16/1999	0.0050	—	—	—	-280	—	—	7.81	—	—	0.00025
R4-M1	NDE-981	09/13/1999	-0.0019	333	0.0306	—	-398	—	—	9.29	—	—	<0.00010
	NDJ-264	10/20/1999	0.0069	330	<0.0400	—	-261	—	—	9.41	—	—	<0.00010
	NDJ-297	11/17/1999	0.0044	346	<0.0400	—	-365	—	—	9.81	—	—	<0.00010
R4-M2	NDE-985	09/13/1999	0.0050	325	—	—	-381	—	—	8.69	—	—	<0.00010
	NDJ-258	10/20/1999	0.0134	—	—	—	-283	—	—	9.96	—	—	<0.00010
	NDJ-301	11/17/1999	0.0132	—	—	—	-271	—	—	9.99	—	—	<0.00010
R4-M3	NDE-990	09/14/1999	<0.0008 ^c	320	<0.0400	—	-371	—	—	9.83	—	—	<0.00010
	NDJ-253	10/20/1999	0.0106	318	0.0100	—	-295	—	—	9.71	—	—	<0.00010
	NDJ-240	11/16/1999	0.0032	330	0.188	—	-340	—	—	9.51	—	—	<0.00010
R4-M4	NDE-994	09/14/1999	0.0038	324	—	—	-337	—	—	9.62	—	—	<0.00010

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Mo (mg/L)	Na (mg/L)	NO ₃ (mg/L)	NO ₃ +NO ₂ As N (mg/L)	ORP (mV)	Pb (mg/L)	Pb-210 (pCi/L)	pH (s.u.)	Ra-226 (pCi/L)	Rn-222 (pCi/L)	Se (mg/L)
	NDJ-723	10/19/1999	0.0110	—	—	—	-307	—	—	9.69	—	—	<0.00010
	NDJ-236	11/16/1999	0.0079	—	—	—	-298	—	—	—	—	—	<0.00010
R4-M5	NDE-969	09/14/1999	0.0037	—	—	—	-288	—	—	7.41	—	—	<0.00010
	NDJ-709	10/19/1999	<0.0008	—	—	—	-252	—	—	7.48	—	—	0.00030
	NDJ-274	11/16/1999	0.0022	—	—	—	-221	—	—	7.51	—	—	0.00013
R4-M6	NDE-965	09/14/1999	0.0025	329	0.572	—	-337	—	—	8.07	—	—	<0.00010
	NDE-999	10/19/1999	<0.0008	324	<0.0400	—	-361	—	—	8.79	—	—	<0.00010
	NDJ-289	11/16/1999	0.0031	319	0.150	—	-332	—	—	9.26	—	—	<0.00010
R4-M7	NDE-960	09/13/1999	0.0057	—	—	—	-336	—	—	9.00	—	—	<0.00010
	NDE-946	10/18/1999	0.0080	—	—	—	-350	—	—	9.29	—	—	<0.00010
	NDJ-285	11/16/1999	0.0042	—	—	—	-355	—	—	8.76	—	—	<0.00010
	NDJ-286	11/16/1999	0.0037	—	—	—	—	—	—	—	—	—	<0.00010
R4-M8	NDE-956	09/13/1999	0.0024	—	—	—	-321	—	—	9.39	—	—	<0.00010
	NDE-941	10/18/1999	<0.0008	—	—	—	-331	—	—	9.58	—	—	<0.00010
	NDE-942	10/18/1999	<0.0008	—	—	—	—	—	—	—	—	—	<0.00010
	NDJ-281	11/16/1999	0.0051	—	—	—	-362	—	—	9.85	—	—	0.00010
R5-M1	NDE-976	09/13/1999	<0.0008 ^c	338	—	—	-4	—	—	9.41	—	—	<0.00010
	NDJ-268	10/20/1999	0.0092	—	—	—	-265	—	—	9.31	—	—	<0.00010
	NDJ-292	11/16/1999	0.0042	—	—	—	-383	—	—	9.66	—	—	<0.00010
R5-M2	NDE-982	09/13/1999	<0.0008 ^c	330	<0.0400	—	-385	—	—	9.34	0.15	—	<0.00010
	NDJ-265	10/20/1999	<0.0008	317	<0.0400	—	-242	—	—	9.38	—	—	<0.00010
	NDJ-298	11/17/1999	0.0030	344	0.138	—	-374	—	—	9.87	—	—	<0.00010
R5-M3	NDE-986	09/13/1999	0.0021	327	—	—	-358	—	—	9.24	—	—	<0.00010
	NDJ-259	10/20/1999	0.0119	—	—	—	-247	—	—	9.82	—	—	<0.00010
	NDJ-302	11/17/1999	0.0139	—	—	—	-259	—	—	10.10	—	—	<0.00010
R5-M4	NDE-991	09/14/1999	<0.0008 ^c	319	<0.0100	—	-388	—	—	9.82	—	—	<0.00010
	NDJ-254	10/20/1999	<0.0008	307	<0.0100	—	-314	—	—	9.68	—	—	0.00017
	NDJ-241	11/16/1999	0.0025	325	0.0797	—	-351	—	—	9.49	—	—	<0.00010
R5-M5	NDE-995	09/14/1999	0.0024	313	—	—	-416	—	—	9.68	—	—	<0.00010
	NDJ-724	10/19/1999	<0.0008	—	—	—	-286	—	—	9.49	—	—	<0.00010
	NDJ-235	11/16/1999	0.0017	—	—	—	-325	—	—	9.38	—	—	0.00011
R5-M6	NDE-970	09/14/1999	0.0046	—	—	—	-250	—	—	7.43	—	—	<0.00010
	NDJ-710	10/19/1999	<0.0008	—	—	—	-337	—	—	8.22	—	—	<0.00010
	NDJ-275	11/16/1999	0.0043	—	—	—	-246	—	—	7.90	—	—	<0.00010
R5-M7	NDE-966	09/14/1999	0.0020	331	0.275	—	-345	—	—	7.49	—	—	<0.00010
	NDJ-706	10/19/1999	<0.0008	318	<0.0400	—	-440	—	—	9.28	—	—	<0.00010
	NDJ-290	11/16/1999	0.0039	320	0.261	—	-299	—	—	9.72	—	—	<0.00010
R5-M8	NDE-961	09/13/1999	0.0030	—	—	—	-357	—	—	9.13	—	—	<0.00010
	NDE-947	10/18/1999	0.0100	—	—	—	-274	—	—	9.67	—	—	<0.00010
	NDJ-287	11/16/1999	0.0070	—	—	—	-221	—	—	9.58	—	—	0.00011

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample	Ticket	Sample	Mo	Na	NO ₃	NO ₃ +NO ₂ As N	ORP	Pb	Pb-210	pH	Ra-226	Rn-222	Se
Location	Number	Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mV)	(mg/L)	(pCi/L)	(s.u.)	(pCi/L)	(pCi/L)	(mg/L)
R5-M9	NDE-957	09/13/1999	0.0043	—	—	—	-293	—	—	9.44	0.48	—	<0.00010
	NDE-943	10/18/1999	<0.0008	—	—	—	-349	—	—	9.59	—	—	<0.00010
	NDJ-282	11/16/1999	0.0050	—	—	—	-409	—	—	9.89	—	—	<0.00010
R5-M10	NDE-951	09/13/1999	0.0123	—	—	—	-204	—	—	9.25	—	—	<0.00010
	NDE-937	10/18/1999	0.0100	—	—	—	-396	—	—	9.65	—	—	<0.00010
	NDJ-277	11/16/1999	0.0099	—	—	—	-345	—	—	9.77	—	—	<0.00010
R6-M2	NDE-983	09/13/1999	-0.0077	338	<0.0400	—	-269	—	—	8.93	—	—	<0.00010
	NDJ-266	10/20/1999	0.0100	320	<0.0400	—	-223	—	—	8.85	—	—	<0.00010
	NDJ-299	11/17/1999	0.0056	344	0.161	—	-257	—	—	9.23	—	—	<0.00010
R6-M3	NDE-992	09/14/1999	-0.121	253	—	—	—	—	—	—	—	—	0.0011
	NDJ-255	10/20/1999	0.0814	228	—	—	-102	—	—	7.00	—	—	0.00077
R6-M4	NDE-967	09/14/1999	0.0307	325	0.414	—	-134	—	—	6.85	—	—	<0.00010
	NDJ-707	10/19/1999	0.0210	317	<0.0400	—	-230	—	—	7.92	—	—	<0.00010
	NDJ-291	11/16/1999	0.0313	328	0.231	—	-178	—	—	7.63	—	—	0.00013
R6-M5	NDE-958	09/13/1999	0.0353	—	—	—	-260	—	—	8.20	—	—	<0.00010
	NDE-944	10/18/1999	0.0205	—	—	—	-260	—	—	8.64	—	—	<0.00010
	NDJ-283	11/16/1999	0.0211	—	—	—	-178	—	—	8.36	—	—	0.00018
R7-M1	NDJ-705	09/14/1999	-0.141	340	—	—	—	—	—	—	—	—	0.0020
R9-M1	NDJ-704	09/14/1999	-0.0636	313	—	—	—	—	—	—	—	—	0.0016
	NDJ-270	11/17/1999	—	—	—	—	63	—	—	6.22	—	—	—
R10-M1	NDJ-702	09/14/1999	-0.0520	309	—	—	—	—	—	—	—	—	0.00070
	NDJ-271	10/21/1999	0.0548	298	4.210	—	163	—	—	6.81	—	—	0.00016
	NDJ-304	11/17/1999	0.0418	275	6.170	—	74	—	—	6.54	—	—	0.0011
R11-M1	NDJ-701	09/14/1999	-0.0988	312	—	—	—	—	—	—	—	—	0.0015
	NDJ-305	11/17/1999	—	—	—	—	8	—	—	6.77	—	—	—
T1-D	NDE-971	09/14/1999	0.0634	339	111.000	—	-34	—	—	6.48	—	—	0.0176
	NDE-972	09/14/1999	0.0670	—	110.000	—	—	—	—	—	—	—	0.0176
	NDJ-712	10/19/1999	0.0657	334	115.000	—	133	—	—	6.44	—	—	0.0144
T1-S	NDJ-247	11/17/1999	0.0678	349	120.000	—	-4	—	—	6.56	—	—	0.0081
	NDE-974	09/14/1999	0.0520	337	113.000	—	-29	—	—	6.48	—	—	0.0170
	NDJ-711	10/19/1999	0.0619	318	115.000	—	170	—	—	6.42	—	—	0.0120
T2-D	NDJ-246	11/17/1999	0.0620	351	110.000	—	-14	—	—	6.58	—	—	0.0079
	NDE-975	09/14/1999	0.0218	331	14.900	—	-214	—	—	7.31	—	—	0.0084
	NDJ-714	10/19/1999	0.0301	324	35.000	—	-202	—	—	7.35	—	—	0.0098
T2-S	NDJ-227	11/16/1999	0.0197	338	30.400	—	-174	—	—	7.34	—	—	0.0041
	NDE-926	09/14/1999	0.0455	336	4.010	—	-318	—	—	8.03	—	—	0.0020
	NDJ-713	10/19/1999	0.0268	314	38.400	—	-214	—	—	7.38	—	—	0.0085
T3-D	NDJ-226	11/16/1999	0.0198	345	33.200	—	-200	—	—	7.44	—	—	0.0036
	NDE-927	09/14/1999	0.0068	331	0.0672	—	-243	—	—	7.34	—	—	0.0020
	NDJ-716	10/19/1999	0.0100	340	0.713	—	-247	—	—	7.39	—	—	0.0016

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample Location	Ticket Number	Sample Date	Mo (mg/L)	Na (mg/L)	NO ₃ (mg/L)	NO ₃ +NO ₂ As N (mg/L)	ORP (mV)	Pb (mg/L)	Pb-210 (pCi/L)	pH (s.u.)	Ra-226 (pCi/L)	Rn-222 (pCi/L)	Se (mg/L)
	NDJ-229	11/16/1999	0.0092	337	2.690	—	-226	—	—	7.52	—	—	0.0020
	NDJ-230	11/16/1999	0.0090	338	2.730	—	-226	—	—	7.52	—	—	0.0022
T3-S	NDE-928	09/14/1999	0.0481	332	0.126	—	-265	—	—	9.31	—	—	<0.00010
	NDJ-715	10/19/1999	0.0171	311	0.0890	—	-303	—	—	7.93	—	—	0.00061
	NDJ-228	11/16/1999	0.0129	323	4.220	—	-246	—	—	7.66	—	—	0.0043
T4-D	NDE-929	09/14/1999	0.0048	327	0.0284	—	-273	—	—	8.73	—	—	<0.00010
	NDE-930	09/14/1999	0.0038	—	0.0518	—	—	—	—	—	—	—	<0.00010
	NDJ-718	10/19/1999	0.0100	322	<0.0100	—	-425	—	—	8.46	—	—	<0.00010
	NDJ-231	11/16/1999	0.0116	333	0.116	—	-270	—	—	7.68	—	—	<0.00010
T4-S	NDE-931	09/14/1999	0.0307	325	0.0221	—	-295	—	—	8.92	—	—	<0.00010
	NDE-932	09/14/1999	0.0310	—	0.0540	—	—	—	—	—	—	—	<0.00010
	NDJ-717	10/19/1999	0.100	312	<0.0400	—	-319	—	—	9.66	—	—	<0.00010
	NDJ-232	11/16/1999	0.0851	326	0.646	—	-272	—	—	9.58	—	—	<0.00010
T5-D	NDE-933	09/14/1999	0.0048	326	0.0674	—	-263	—	—	9.59	—	—	<0.00010
	NDJ-720	10/19/1999	0.0110	329	<0.0100	—	-299	—	—	9.68	—	—	<0.00010
	NDJ-234	11/16/1999	0.0050	327	0.149	—	-341	—	—	8.56	—	—	<0.00010
T5-S	NDE-934	09/14/1999	0.0169	322	0.0413	—	-422	—	—	9.23	—	—	<0.00010
	NDJ-719	10/19/1999	0.0517	312	<0.0100	—	-342	—	—	9.38	—	—	<0.00010
	NDJ-233	11/16/1999	0.0270	328	0.130	—	-331	—	—	9.54	—	—	<0.00010
T6-D	NDJ-721	10/20/1999	0.0291	280	21.700	—	—	—	—	—	—	—	0.0021
	NDJ-306	11/17/1999	0.0250	308	—	—	-4	—	—	6.38	—	—	0.0026
T99-01	NDF-771	07/30/1999	0.0691	—	—	—	—	-0.00023	—	6.47	—	—	0.0161
	NDF 775	10/14/1999	—	—	—	—	—	—	—	6.52	—	—	—
T99-03	NDF-772	07/30/1999	~0.0055	—	—	—	—	-0.00023	—	7.46	—	—	~0.0014
	NDF 774	10/15/1999	—	—	—	—	—	—	—	7.12	—	—	—
T99-05	NBC-997	07/28/1999	~0.0151	—	—	—	—	-0.00075	—	7.47	—	—	<0.0010
	NDG 413	10/14/1999	—	—	—	—	—	—	—	7.33	—	—	—
^a A "<" indicates that the maximum concentration was less otherwise noted.													
^b Results determined using EPA Method 00-02-01; a m													
^c Estimated													

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample	Ticket	Sample	Semivolatile	SO ₄	TDS	Th-230	TMP	Turbidity	U	U-234	U-235	U-238	V
Location	Number	Date	(µg/L)	(mg/L)	(mg/L)	(pCi/L)	(C)	(NTU)	(mg/L)	(pCi/L)	(pCi/L)	(pCi/L)	(mg/L)
31NE93-205	NDE 852	10/21/1999	—	307	637	<0.6	13.3	0.65	<0.0002	1.6	—	<0.12	<0.001
31SW93-200-1	NDE 853	10/22/1999	—	102	365	<0.6	13.1	3.49	<0.0002	<0.8	—	<0.12	0.0015
31SW93-200-2	NDE 869,NDG 419	10/27/1999	—	10.8	525	<0.6	13.2	27.1	0.00026	0.9	—	0.17	<0.001
31SW93-200-3	NDE 871,NDG 418	10/27/1999	—	2360	4330	<0.6	10.8	33.7	0.0023	<2	—	0.94	<0.001
31SW93-200-4	NDE 870,NDG 417	10/27/1999	—	2140	3710	<0.6	12.4	30.8	0.0098	<2.0	—	3.8	<0.001
82-07	NDF-769	01/28/1999	—	726	1430	<0.80	3.2	178	0.142	—	—	—	~0.0418
82-08	NDE-706	04/13/1999	—	1550	3230	<1.2	8.7	25.0	0.208	—	—	—	~0.0066
	NDE-758	07/29/1999	—	~0.254	3000	<0.60	13.7	>1000	0.116	—	—	—	~0.0068
	NDE 824	10/19/1999	—	1390	2720	<0.6	13.8	2.0	0.0216	—	—	—	0.010
	NDE 825	10/19/1999	—	1380	2750	<0.6	—	—	0.0222	—	—	—	0.0107
82-20	NDE 872	10/27/1999	—	1350	2440	<0.6	9.9	4.53	0.0088	—	—	—	<0.001
	NDE 873	10/27/1999	—	1330	2450	<0.6	—	—	0.0088	—	—	—	<0.001
83-70	NDE-718	04/14/1999	—	105	387	<1.2	11.6	0.51	<0.0010	<0.80	<0.40	<0.40	<0.0010
	NDE 864	10/26/1999	—	97.7	365	<0.6	10.7	0.37	<0.0002	<0.8	—	0.13	<0.001
88-85	NDF-765	01/27/1999	—	1350	2750	<0.80	3.3	206	0.837	—	—	—	0.312
	NDE-761	08/05/1999	—	~1440	3110	<0.60	14.4	3.94	0.651	—	—	—	0.371
	NDE 863	10/26/1999	—	1260	2800	<0.6	15.1	4.66	0.562	—	—	—	0.402
92-05	NDE 816,NDG 473	10/13/1999	—	572	1240	<0.6	11.3	—	0.0053	—	—	—	<0.001
92-06	NDE 817,NDG 474	10/13/1999	—	90.7	387	<0.6	11.6	1.69	<0.0002	0.97	—	0.33	<0.001
92-07	NDF-767	01/28/1999	—	941	1960	<0.80	8.5	28.8	0.884	—	—	—	0.304
	NDF-768	01/28/1999	—	961	2000	<0.80	—	—	0.910	—	—	—	0.307
	NDE-701	04/12/1999	—	1100	2270	<1.2	11.8	41.6	1.180	—	—	—	0.294
	NDE-760	08/05/1999	—	~1370	3020	<0.60	12.6	1.33	1.120	—	—	—	0.366
	NDE 865	10/27/1999	—	1330	2700	<0.6	12.7	0.50	0.602	—	—	—	0.416
92-08	NDF-761	01/26/1999	—	873	1820	<0.80	7.7	0.69	0.452	—	—	—	~0.0021
	NDE-703	04/12/1999	—	731	1630	<1.2	10.3	1.35	0.347	—	—	—	~0.0012
	NDE-751	07/28/1999	—	696	1620	<0.60	9.9	4.67	0.311	—	—	—	~0.0019
	NDE-752	07/28/1999	—	674	1600	<0.60	—	—	0.304	—	—	—	~0.0026
	NDE 861	10/26/1999	—	832	1840	<0.6	12.4	3.61	0.412	—	—	—	0.002
92-09	NDE-712	04/13/1999	—	1020	2170	<1.2	8.8	2.54	0.270	—	—	—	<0.0010
	NDE-713	04/13/1999	—	1020	2170	<1.2	—	—	0.261	—	—	—	<0.0010
	NBC-999	07/28/1999	—	—	—	<0.60	10.6	1.19	0.289	—	—	—	<0.00060
	NDE 859	10/26/1999	—	1000	2220	<0.6	11.5	0.23	0.298	—	—	—	<0.001
92-10	NDE-716	04/14/1999	—	150	463	<1.2	9.9	3.82	<0.0010	<0.80	<0.40	<0.40	<0.0010
	NDE-717	04/14/1999	—	151	473	<1.2	—	—	<0.0010	<0.80	<0.40	<0.40	<0.0010
	NDE 860	10/26/1999	—	143	455	<0.6	10.0	1.73	<0.0002	0.85	—	<0.12	<0.001
92-11	NDF-754	01/25/1999	—	1190	2360	<0.80	11.8	3.23	1.400	—	—	—	0.717
	NDE-709	04/13/1999	—	1490	3340	<1.2	13.1	4.33	1.670	—	—	—	0.541
	NDE-754	07/29/1999	—	1270	3160	<0.60	18.4	542	1.210	—	—	—	0.543

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Semivolatile ($\mu\text{g/L}$)	SO ₄ (mg/L)	TDS (mg/L)	Th-230 (pCi/L)	TMP (C)	Turbidity (NTU)	U (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	V (mg/L)
	NDE 829	10/20/1999	—	1310	2990	<0.6	12.7	3.53	1.110	—	—	—	0.615
92-12	NDE-720,NDE-721	04/21/1999	—	114	527	<1.2	10.9	800	~0.0038	3.5	<0.40	~1.1	<0.0010
	NDE 828,NDG 415	10/20/1999	—	103	505	<0.6	11.2	189	0.0021	2.8	—	0.83	<0.001
92-13	NDE 830,NDG 416	10/20/1999	—	14.0	435	<0.6	11.9	896	0.0026	5.3	—	0.73	0.0023
93-01	NDE 866	10/27/1999	—	96.0	363	<0.6	10.2	4.80	0.00025	<0.8	—	0.17	<0.001
95-01	NDE-710	04/13/1999	—	111	360	<1.2	10.5	4.62	~0.0013	<0.80	<0.40	<0.40	<0.0010
	NDE 854	10/25/1999	—	110	362	<0.6	12.5	2.68	0.0016	<0.8	—	0.63	<0.001
95-02	NDE 855	10/25/1999	—	110	342	<0.6	11.8	2.72	<0.0002	<0.8	—	<0.12	<0.001
95-03	NDE-711	04/13/1999	—	468	1100	<1.2	9.4	4.90	0.0076	3.1	<0.40	2.6	<0.0010
	NBC-998	07/28/1999	—	—	—	<1.5	11.7	2.69	0.0070	—	—	—	<0.00060
	NDE 856	10/25/1999	—	471	1120	<0.6	12.1	2.82	0.0075	2.4	—	2.8	<0.001
	NDE 857	10/25/1999	—	466	1090	<0.6	—	—	0.0074	2.6	—	2.8	<0.001
95-04	NDE 858	10/25/1999	—	497	1160	<0.6	10.7	4.51	0.0049	2.4	—	1.9	<0.001
95-06	NDE-719	04/14/1999	—	828	1730	<1.2	12.3	14.4	0.0630	30.0	~1.3	23.5	<0.0010
	NDE 851	10/21/1999	—	791	1720	<0.6	14.8	9.61	0.0606	29.9	—	21.7	<0.001
95-07	NDE 819,NDG 414	10/18/1999	—	0.760	1550	<0.6	11.1	—	0.00068	0.94	—	0.38	0.0015
95-08	NDJ 851	10/21/1999	—	34.2	358	0.76	13.4	1.35	<0.0002	1.3	—	0.12	0.0012
GB1126T	NDF-251	02/23/1999	See Table	—	—	—	—	—	0.0336	—	—	—	0.0025
	NDE-745	04/14/1999	—	—	—	—	—	—	0.450	—	—	—	~0.0041
	NDG-471	07/29/1999	—	—	—	<0.60	—	—	0.172	—	—	—	~0.0065
	NDG 475	10/14/1999	—	—	—	<0.6	—	—	—	—	—	—	—
GB2820T	NDF-252	02/23/1999	—	—	—	—	—	—	0.254	—	—	—	<0.0010
	NDE-743	04/13/1999	—	—	—	<1.2	—	—	0.272	—	—	—	<0.0010
	NDG-470	07/29/1999	—	—	—	<0.60	—	—	0.238	—	—	—	~0.0012
GB3127T	NDE-744	04/14/1999	—	—	—	<1.2	—	—	0.0570	—	—	—	~0.0017
P92-02	NDE-715	04/14/1999	—	1300	2090	<1.2	9.5	2.15	0.0738	—	—	—	<0.0010
	NDF-770	07/28/1999	—	—	—	<0.60	10.3	2.92	0.0690	—	—	—	<0.00060
	NDE 821	10/18/1999	—	1330	2860	<0.6	11.2	0.82	0.0692	—	—	—	<0.001
P92-03	NDE 820	10/18/1999	—	1170	2540	<0.6	11.6	2.26	0.135	—	—	—	<0.001
P92-04	NDF-759	01/26/1999	—	845	1970	<0.80	9.8	3.35	0.0408	—	—	—	<0.0010
	NDE-705	04/12/1999	—	630	1650	<1.2	10.9	1.09	0.0333	—	—	—	<0.0010
	NDE-755	07/29/1999	—	634	1790	<0.60	9.7	4.21	0.0321	—	—	—	~0.00095
	NDE 823	10/19/1999	—	752	1900	<0.6	11.0	0.90	0.0394	—	—	—	<0.001
P92-05	NDF-760	01/26/1999	—	1500	2870	<0.80	6.3	58.6	0.0458	—	—	—	<0.0010
	NDE-704	04/13/1999	—	1080	2480	<1.2	7.9	41.3	0.0318	—	—	—	<0.0010
	NDE-753	07/28/1999	—	838	2440	<0.60	15.8	6.73	0.0357	—	—	—	<0.00060
	NDE 822	10/19/1999	—	1210	2580	<0.6	12.0	27.1	0.0393	—	—	—	0.0014
P92-06	NDF-763	01/27/1999	—	1820	3580	<0.80	8.3	4.44	0.997	—	—	—	<0.0010

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Semivolatiles (µg/L)	SO ₄ (mg/L)	TDS (mg/L)	Th-230 (pCi/L)	TMP (C)	Turbidity (NTU)	U (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	V (mg/L)
	NDE-702	04/12/1999	—	1910	3970	<1.2	8.1	3.37	1.180	—	—	—	<0.0010
	NDE-757	07/29/1999	—	1230	4730	<0.60	9.7	3.87	1.260	—	—	—	<0.00060
	NDE 818	10/15/1999	—	2600	4950	<0.6	11.4	1.65	1.320	—	—	—	<0.001
P92-07	NDF-764	01/27/1999	—	1080	2540	<0.80	5.9	>1000	0.0910	—	—	—	<0.0010
	NDE-707	04/15/1999	—	945	—	<1.2	8.4	296	0.0814	—	—	—	<0.0010
	NDE-746	08/05/1999	—	—	—	<0.60	12.8	248	0.0632	—	—	—	~0.0010
	NDE 827	10/20/1999	—	—	—	<0.6	11.9	75.8	—	—	—	—	—
P92-09	NDF-753	01/25/1999	—	1230	2680	<0.80	9.2	1.91	0.0766	—	—	—	<0.0010
	NDE-708	04/13/1999	—	1100	2670	<1.2	8.9	3.31	0.0776	—	—	—	<0.0010
	NDE-756	07/29/1999	—	1040	2750	<0.60	10.8	1.48	0.0727	—	—	—	<0.00060
	NDE 826	10/19/1999	—	818	2280	<0.6	11.7	0.87	0.0613	—	—	—	<0.001
R1-M1	NDE-997	09/14/1999	—	—	—	—	15.9	—	0.739	—	—	—	0.430
	NDJ-269	10/20/1999	—	—	—	—	15.0	10.1	0.300	—	—	—	0.481
	NDJ-303	11/17/1999	—	—	—	—	14.0	3.96	0.417	—	—	—	0.450
R1-M2	NDE-978	09/13/1999	—	1200	—	—	16.7	—	0.680	—	—	—	0.428
	NDJ-260	10/20/1999	—	1210	—	—	16.0	4.15	0.292	—	—	—	0.425
	NDJ-261	10/20/1999	—	1180	—	—	—	—	0.289	—	—	—	0.440
	NDJ-250	11/17/1999	—	1260	—	—	14.5	18.3	0.391	—	—	—	0.412
R1-M3	NDE-987	09/14/1999	—	1190	—	—	15.9	—	0.483	—	—	—	0.387
	NDJ-725	10/20/1999	—	1170	—	—	13.8	15.4	0.246	—	—	—	0.379
	NDJ-248	11/17/1999	—	1370	—	—	14.9	61.4	0.384	—	—	—	0.364
	NDJ-249	11/17/1999	—	1320	—	—	14.9	61.4	0.377	—	—	—	0.374
R1-M4	NDE-962	09/13/1999	—	1250	—	—	15.4	—	0.584	—	—	—	0.353
	NDE-948	10/19/1999	—	1380	—	—	12.8	3.82	0.370	—	—	—	0.355
	NDJ-242	11/17/1999	—	1240	—	—	13.5	50.4	0.446	—	—	—	0.321
R1-M5	NDE-953	09/13/1999	—	—	—	—	17.5	—	0.566	—	—	—	0.339
	NDE-938	10/18/1999	—	—	—	—	15.1	16.2	0.384	—	—	—	0.346
	NDJ-278	11/16/1999	—	—	—	—	15.2	6.20	0.465	—	—	—	0.314
R2-M1	NDE-977	09/13/1999	—	—	—	—	18.7	—	<0.00020	—	—	—	<0.0010
	NDJ-267	10/20/1999	—	—	—	—	15.9	13.5	<0.00020	—	—	—	<0.0010
	NDJ-293	11/16/1999	—	—	—	—	15.6	20.1	<0.00020	—	—	—	<0.0010
R2-M2	NDE-979	09/13/1999	—	1100	—	—	16.7	—	0.0018	—	—	—	<0.0010
	NDJ-262	10/20/1999	—	62.5	—	—	16.4	14.0	0.0143	—	—	—	<0.0010
	NDJ-294	11/17/1999	—	1200	—	—	15.2	21.7	0.0460	—	—	—	<0.0010
R2-M3	NDE-984	09/13/1999	—	—	—	—	17.4	—	0.0093	—	—	—	<0.0010
	NDJ-257	10/20/1999	—	—	—	—	16.0	118	0.0374	—	—	—	<0.0010
	NDJ-300	11/17/1999	—	—	—	—	16.3	10.1	0.0363	—	—	—	<0.0010
R2-M4	NDE-988	09/14/1999	—	1140	—	—	16.9	—	0.00056	—	—	—	<0.0010
	NDJ-251	10/20/1999	—	1080	—	—	14.3	5.90	0.00068	—	—	—	<0.0010
	NDJ-238	11/16/1999	—	1160	—	—	16.1	7.55	0.0018	—	—	—	<0.0010

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample	Ticket	Sample	Semivolatile	SO ₄	TDS	Th-230	TMP	Turbidity	U	U-234	U-235	U-238	V
Location	Number	Date	(µg/L)	(mg/L)	(mg/L)	(pCi/L)	(C)	(NTU)	(mg/L)	(pCi/L)	(pCi/L)	(pCi/L)	(mg/L)
R2-M5	NDE-993	09/14/1999	—	—	—	—	16.7	—	<0.00020	—	—	—	<0.0010
	NDJ-722	10/19/1999	—	—	—	—	16.2	3.70	0.0211	—	—	—	<0.0010
	NDJ-237	11/16/1999	—	—	—	—	16.0	2.51	0.0723	—	—	—	<0.0010
R2-M6	NDE-968	09/14/1999	—	—	—	—	14.7	—	0.444	—	—	—	0.0150
	NDJ-708	10/19/1999	—	—	—	—	14.3	9.38	0.310	—	—	—	0.122
	NDJ-245	11/17/1999	—	—	—	—	13.8	1.36	0.487	—	—	—	0.159
R2-M7	NDE-963	09/13/1999	—	1240	—	—	16.1	—	0.173	—	—	—	<0.0010
	NDE-949	10/19/1999	—	1350	—	—	14.3	1.49	0.180	—	—	—	0.0035
	NDJ-288	11/16/1999	—	1270	—	—	14.9	4.27	0.470	—	—	—	0.0762
R2-M8	NDE-959	09/13/1999	—	—	—	—	15.9	—	0.00082	—	—	—	<0.0010
	NDE-945	10/18/1999	—	—	—	—	15.3	1.75	0.0337	—	—	—	<0.0010
	NDJ-284	11/16/1999	—	—	—	—	15.7	1.91	0.0425	—	—	—	0.0011
R2-M9	NDE-954	09/13/1999	—	—	—	—	16.9	—	0.00031	—	—	—	<0.0010
	NDE-939	10/18/1999	—	—	—	—	15.9	4.31	0.0020	—	—	—	<0.0010
	NDJ-279	11/16/1999	—	—	—	—	15.0	4.67	0.0121	—	—	—	<0.0010
R2-M10	NDE-952	09/13/1999	—	—	—	—	17.6	—	<0.00020	—	—	—	<0.0010
	NDE-936	10/18/1999	—	—	—	—	16.2	4.73	<0.00020	—	—	—	<0.0010
	NDJ-276	11/16/1999	—	—	—	—	14.7	4.21	<0.00020	—	—	—	<0.0010
R3-M1	NDE-980	09/13/1999	—	1070	—	—	16.8	—	<0.00020	—	—	—	<0.0010
	NDJ-263	10/20/1999	—	1090	—	—	16.4	6.02	0.0203	—	—	—	<0.0010
	NDJ-296	11/17/1999	—	1210	—	—	14.6	13.7	0.0156	—	—	—	<0.0010
R3-M2	NDE-989	09/14/1999	—	1180	—	—	17.1	—	<0.00020	—	—	—	<0.0010
	NDJ-252	10/20/1999	—	1070	—	—	15.2	5.00	<0.00020	—	—	—	<0.0010
	NDJ-239	11/16/1999	—	1190	—	—	14.6	6.77	<0.00020	—	—	—	<0.0010
R3-M3	NDE-964	09/13/1999	—	1230	—	—	15.7	—	0.278	—	—	—	<0.0010
	NDE-950	10/19/1999	—	1330	—	—	14.1	1.55	0.273	—	—	—	0.0119
	NDJ-243	11/17/1999	—	1340	—	—	13.8	3.57	0.425	—	—	—	0.0247
R3-M4	NDE-955	09/13/1999	—	—	—	—	16.8	—	<0.00020	—	—	—	<0.0010
	NDE-940	10/18/1999	—	—	—	—	15.5	4.51	<0.00020	—	—	—	<0.0010
	NDJ-280	11/16/1999	—	—	—	—	16.0	3.78	<0.00020	—	—	—	<0.0010
R4-M1	NDE-981	09/13/1999	—	1110	—	—	16.7	—	<0.00020	—	—	—	<0.0010
	NDJ-264	10/20/1999	—	1020	—	—	16.4	4.02	<0.00020	—	—	—	0.0014
	NDJ-297	11/17/1999	—	1190	—	—	14.9	5.82	<0.00020	—	—	—	<0.0010
R4-M2	NDE-985	09/13/1999	—	—	—	—	17.4	—	<0.00020	—	—	—	<0.0010
	NDJ-258	10/20/1999	—	—	—	—	16.2	31.4	<0.00020	—	—	—	<0.0010
	NDJ-301	11/17/1999	—	—	—	—	15.7	6.57	<0.00020	—	—	—	<0.0010
R4-M3	NDE-990	09/14/1999	—	1180	—	—	17.4	—	<0.00020	—	—	—	<0.0010
	NDJ-253	10/20/1999	—	1030	—	—	15.1	1.79	<0.00020	—	—	—	<0.0010
	NDJ-240	11/16/1999	—	1100	—	—	15.5	1.95	<0.00020	—	—	—	<0.0010
R4-M4	NDE-994	09/14/1999	—	—	—	—	16.8	—	<0.00020	—	—	—	<0.0010

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Semivolatile ($\mu\text{g/L}$)	SO_4 (mg/L)	TDS (mg/L)	Th-230 (pCi/L)	TMP (C)	Turbidity (NTU)	U (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	V (mg/L)
	NDJ-723	10/19/1999	—	—	—	—	16.1	3.27	<0.00020	—	—	—	<0.0010
	NDJ-236	11/16/1999	—	—	—	—	15.9	2.51	<0.00020	—	—	—	0.0012
R4-M5	NDE-969	09/14/1999	—	—	—	—	14.9	—	<0.00020	—	—	—	<0.0010
	NDJ-709	10/19/1999	—	—	—	—	14.5	4.17	<0.00020	—	—	—	<0.0010
	NDJ-274	11/16/1999	—	—	—	—	14.3	6.34	0.00026	—	—	—	<0.0010
R4-M6	NDE-965	09/14/1999	—	1210	—	—	15.4	—	<0.00020	—	—	—	<0.0010
	NDE-999	10/19/1999	—	1230	—	—	14.6	3.62	<0.00020	—	—	—	<0.0010
	NDJ-289	11/16/1999	—	1170	—	—	15.3	3.51	<0.00020	—	—	—	<0.0010
R4-M7	NDE-960	09/13/1999	—	—	—	—	15.9	—	<0.00020	—	—	—	<0.0010
	NDE-946	10/18/1999	—	—	—	—	15.0	2.31	<0.00020	—	—	—	<0.0010
	NDJ-285	11/16/1999	—	—	—	—	15.9	8.60	<0.00020	—	—	—	<0.0010
	NDJ-286	11/16/1999	—	—	—	—	—	—	<0.00020	—	—	—	<0.0010
R4-M8	NDE-956	09/13/1999	—	—	—	—	16.5	—	<0.00020	—	—	—	<0.0010
	NDE-941	10/18/1999	—	—	—	—	15.2	4.25	<0.00020	—	—	—	<0.0010
	NDE-942	10/18/1999	—	—	—	—	—	—	<0.00020	—	—	—	<0.0010
	NDJ-281	11/16/1999	—	—	—	—	15.5	4.48	<0.00020	—	—	—	0.0010
R5-M1	NDE-976	09/13/1999	—	—	—	—	18.3	—	<0.00020	—	—	—	<0.0010
	NDJ-268	10/20/1999	—	—	—	—	15.7	5.38	<0.00020	—	—	—	<0.0010
	NDJ-292	11/16/1999	—	—	—	—	15.8	4.83	<0.00020	—	—	—	0.0011
R5-M2	NDE-982	09/13/1999	—	1170	—	—	17.1	—	<0.00020	—	—	—	<0.0010
	NDJ-265	10/20/1999	—	1010	—	—	16.7	2.31	<0.00020	—	—	—	<0.0010
	NDJ-298	11/17/1999	—	1160	—	—	15.0	2.82	<0.00020	—	—	—	<0.0010
R5-M3	NDE-986	09/13/1999	—	—	—	—	17.3	—	<0.00020	—	—	—	<0.0010
	NDJ-259	10/20/1999	—	—	—	—	16.1	3.18	<0.00020	—	—	—	<0.0010
	NDJ-302	11/17/1999	—	—	—	—	15.6	5.89	<0.00020	—	—	—	<0.0010
R5-M4	NDE-991	09/14/1999	—	1160	—	—	17.4	—	<0.00020	—	—	—	<0.0010
	NDJ-254	10/20/1999	—	1040	—	—	16.0	4.68	<0.00020	—	—	—	<0.0010
	NDJ-241	11/16/1999	—	1040	—	—	8.0	3.04	<0.00020	—	—	—	0.0011
R5-M5	NDE-995	09/14/1999	—	—	—	—	17.2	—	<0.00020	—	—	—	<0.0010
	NDJ-724	10/19/1999	—	—	—	—	16.1	4.24	<0.00020	—	—	—	<0.0010
	NDJ-235	11/16/1999	—	—	—	—	16.0	2.88	<0.00020	—	—	—	<0.0010
R5-M6	NDE-970	09/14/1999	—	—	—	—	15.2	—	<0.00020	—	—	—	<0.0010
	NDJ-710	10/19/1999	—	—	—	—	14.8	5.84	<0.00020	—	—	—	<0.0010
	NDJ-275	11/16/1999	—	—	—	—	14.6	10.8	<0.00020	—	—	—	<0.0010
R5-M7	NDE-966	09/14/1999	—	1220	—	—	15.2	—	<0.00020	—	—	—	<0.0010
	NDJ-706	10/19/1999	—	1210	—	—	14.7	4.66	<0.00020	—	—	—	0.0012
	NDJ-290	11/16/1999	—	1130	—	—	15.0	9.21	<0.00020	—	—	—	0.0012
R5-M8	NDE-961	09/13/1999	—	—	—	—	16.2	—	<0.00020	—	—	—	<0.0010
	NDE-947	10/18/1999	—	—	—	—	14.5	1.72	<0.00020	—	—	—	<0.0010
	NDJ-287	11/16/1999	—	—	—	—	15.9	3.65	<0.00020	—	—	—	<0.0010

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample	Ticket	Sample	Semivolatile	SO ₄	TDS	Th-230	TMP	Turbidity	U	U-234	U-235	U-238	V
Location	Number	Date	(µg/L)	(mg/L)	(mg/L)	(pCi/L)	(C)	(NTU)	(mg/L)	(pCi/L)	(pCi/L)	(pCi/L)	(mg/L)
R5-M9	NDE-957	09/13/1999	—	—	—	—	16.1	—	<0.00020	—	—	—	<0.0010
	NDE-943	10/18/1999	—	—	—	—	15.3	2.16	<0.00020	—	—	—	<0.0010
	NDJ-282	11/16/1999	—	—	—	—	15.1	4.08	<0.00020	—	—	—	<0.0010
R5-M10	NDE-951	09/13/1999	—	—	—	—	18.8	—	0.00033	—	—	—	<0.0010
	NDE-937	10/18/1999	—	—	—	—	15.0	7.29	<0.00020	—	—	—	<0.0010
	NDJ-277	11/16/1999	—	—	—	—	14.0	3.86	<0.00020	—	—	—	<0.0010
R6-M2	NDE-983	09/13/1999	—	1150	—	—	17.7	—	<0.00020	—	—	—	0.0030
	NDJ-266	10/20/1999	—	1010	—	—	16.3	29.7	<0.00020	—	—	—	0.0015
	NDJ-299	11/17/1999	—	1120	—	—	15.7	30.4	<0.00020	—	—	—	0.0012
R6-M3	NDE-992	09/14/1999	—	—	—	—	—	—	0.368	—	—	—	0.0251
	NDJ-255	10/20/1999	—	—	—	—	15.1	371	0.269	—	—	—	0.0278
R6-M4	NDE-967	09/14/1999	—	1130	—	—	15.5	—	0.0024	—	—	—	0.0147
	NDJ-707	10/19/1999	—	1110	—	—	14.7	49.8	0.0182	—	—	—	0.127
	NDJ-291	11/16/1999	—	1140	—	—	16.2	20.0	0.0214	—	—	—	0.0434
R6-M5	NDE-958	09/13/1999	—	—	—	—	15.9	—	0.0084	—	—	—	0.0027
	NDE-944	10/18/1999	—	—	—	—	15.5	1.10	0.0034	—	—	—	0.0047
	NDJ-283	11/16/1999	—	—	—	—	15.2	6.86	0.0065	—	—	—	0.0123
R7-M1	NDJ-705	09/14/1999	—	—	—	—	—	—	0.495	—	—	—	0.0907
R9-M1	NDJ-704	09/14/1999	—	—	—	—	—	—	0.0769	—	—	—	0.0283
	NDJ-270	11/17/1999	—	—	—	—	14.0	—	—	—	—	—	—
R10-M1	NDJ-702	09/14/1999	—	—	—	—	—	—	0.0222	—	—	—	0.154
	NDJ-271	10/21/1999	—	1090	—	—	13.7	>1000	0.0055	—	—	—	0.178
	NDJ-304	11/17/1999	—	1060	—	—	14.8	27.8	0.0265	—	—	—	0.204
R11-M1	NDJ-701	09/14/1999	—	—	—	—	—	—	0.152	—	—	—	0.0302
	NDJ-305	11/17/1999	—	—	—	—	14.3	—	—	—	—	—	—
T1-D	NDE-971	09/14/1999	—	1230	—	—	15.0	—	0.468	—	—	—	0.363
	NDE-972	09/14/1999	—	1230	—	—	—	—	0.518	—	—	—	0.362
	NDJ-712	10/19/1999	—	1220	—	—	15.2	22.2	0.263	—	—	—	0.338
	NDJ-247	11/17/1999	—	1330	—	—	14.5	23.8	0.407	—	—	—	0.343
T1-S	NDE-974	09/14/1999	—	1240	—	—	16.4	—	0.431	—	—	—	0.370
	NDJ-711	10/19/1999	—	1210	—	—	15.5	21.8	0.256	—	—	—	0.337
	NDJ-246	11/17/1999	—	1330	—	—	14.4	15.8	0.378	—	—	—	0.347
T2-D	NDE-975	09/14/1999	—	1220	—	—	16.5	—	0.0275	—	—	—	<0.0010
	NDJ-714	10/19/1999	—	1200	—	—	16.1	12.9	0.0685	—	—	—	<0.0010
	NDJ-227	11/16/1999	—	1370	—	—	15.3	17.4	0.0772	—	—	—	<0.0010
T2-S	NDE-926	09/14/1999	—	1080	—	—	17.4	—	0.0076	—	—	—	<0.0010
	NDJ-713	10/19/1999	—	1200	—	—	16.3	4.45	0.0642	—	—	—	<0.0010
	NDJ-226	11/16/1999	—	1230	—	—	15.0	3.29	0.0701	—	—	—	0.0012
T3-D	NDE-927	09/14/1999	—	1180	—	—	16.9	—	0.00050	—	—	—	<0.0010
	NDJ-716	10/19/1999	—	1250	—	—	15.9	4.26	0.0035	—	—	—	<0.0010

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample Location	Ticket Number	Sample Date	Semivolatile (µg/L)	SO ₄ (mg/L)	TDS (mg/L)	Th-230 (pCi/L)	TMP (C)	Turbidity (NTU)	U (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	V (mg/L)
	NDJ-229	11/16/1999	--	1310	--	--	14.8	9.47	0.0073	--	--	--	<0.0010
	NDJ-230	11/16/1999	--	1340	--	--	14.8	9.47	0.0071	--	--	--	<0.0010
T3-S	NDE-928	09/14/1999	--	1020	--	--	17.0	--	<0.00020	--	--	--	<0.0010
	NDJ-715	10/19/1999	--	1210	--	--	16.8	3.87	<0.00020	--	--	--	<0.0010
	NDJ-228	11/16/1999	--	1300	--	--	16.4	5.20	0.0175	--	--	--	<0.0010
T4-D	NDE-929	09/14/1999	--	1100	--	--	16.6	--	<0.00020	--	--	--	<0.0010
	NDE-930	09/14/1999	--	1130	--	--	--	--	<0.00020	--	--	--	<0.0010
	NDJ-718	10/19/1999	--	1220	--	--	15.9	5.28	<0.00020	--	--	--	<0.0010
	NDJ-231	11/16/1999	--	1280	--	--	15.1	9.43	<0.00020	--	--	--	<0.0010
T4-S	NDE-931	09/14/1999	--	1020	--	--	17.3	--	<0.00020	--	--	--	<0.0010
	NDE-932	09/14/1999	--	1020	--	--	--	--	<0.00020	--	--	--	<0.0010
	NDJ-717	10/19/1999	--	1080	--	--	17.7	3.46	<0.00020	--	--	--	<0.0010
	NDJ-232	11/16/1999	--	1130	--	--	17.1	3.35	<0.00020	--	--	--	<0.0010
T5-D	NDE-933	09/14/1999	--	1090	--	--	16.0	--	<0.00020	--	--	--	<0.0010
	NDJ-720	10/19/1999	--	1200	--	--	15.9	2.99	<0.00020	--	--	--	<0.0010
	NDJ-234	11/16/1999	--	1250	--	--	15.2	7.39	<0.00020	--	--	--	<0.0010
T5-S	NDE-934	09/14/1999	--	1010	--	--	17.9	--	<0.00020	--	--	--	<0.0010
	NDJ-719	10/19/1999	--	1070	--	--	17.7	1.96	<0.00020	--	--	--	<0.0010
	NDJ-233	11/16/1999	--	1130	--	--	17.2	2.62	<0.00020	--	--	--	<0.0010
T6-D	NDJ-721	10/20/1999	--	1030	--	--	--	--	0.0031	--	--	--	0.0278
	NDJ-306	11/17/1999	--	1040	--	--	16.2	837	0.0078	--	--	--	0.0429
T99-01	NDF-771	07/30/1999	--	--	--	<0.60	15.2	--	0.901	--	--	--	0.0908
	NDF 775	10/14/1999	--	--	--	<0.6	11.5	--	--	--	--	--	--
T99-03	NDF-772	07/30/1999	--	--	--	<0.60	14.5	--	0.0341	--	--	--	<0.00060
	NDF 774	10/15/1999	--	--	--	<0.6	15.8	--	--	--	--	--	--
T99-05	NBC-997	07/28/1999	--	--	--	<0.60	--	--	0.0109	--	--	--	<0.00060
	NDG 413	10/14/1999	--	--	--	<0.6	14.0	--	--	--	--	--	--
^a A "<" indicates that the maximum concentration was													
^b Results determined using EPA Method 00-02-01; a m													
^c Estimated													

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Volatile (µg/L)	Zn (mg/L)
31NE93-205	NDE 852	10/21/1999	—	0.0067
31SW93-200-1	NDE 853	10/22/1999	—	0.0038
31SW93-200-2	NDE 869,NDG 419	10/27/1999	—	0.0041
31SW93-200-3	NDE 871,NDG 418	10/27/1999	—	0.0313
31SW93-200-4	NDE 870,NDG 417	10/27/1999	—	0.0292
82-07	NDF-769	01/28/1999	—	~0.0135
82-08	NDE-706	04/13/1999	—	<0.0090
	NDE-758	07/29/1999	—	<0.0182
	NDE 824	10/19/1999	—	0.0565
	NDE 825	10/19/1999	—	0.059
82-20	NDE 872	10/27/1999	—	0.0193
	NDE 873	10/27/1999	—	0.0181
83-70	NDE-718	04/14/1999	—	<0.0090
	NDE 864	10/26/1999	—	0.0032
88-85	NDF-765	01/27/1999	—	0.0314
	NDE-761	08/05/1999	—	<0.0182
	NDE 863	10/26/1999	—	0.0193
92-05	NDE 816,NDG 473	10/13/1999	—	0.0125
92-06	NDE 817,NDG 474	10/13/1999	—	0.003
92-07	NDF-767	01/28/1999	—	<0.0060
	NDF-768	01/28/1999	—	<0.0060
	NDE-701	04/12/1999	—	<0.0090
	NDE-760	08/05/1999	—	<0.0182
	NDE 865	10/27/1999	—	0.019
92-08	NDF-761	01/26/1999	—	<0.0060
	NDE-703	04/12/1999	—	<0.0090
	NDE-751	07/28/1999	—	<0.0182
	NDE-752	07/28/1999	—	<0.0182
	NDE 861	10/26/1999	—	0.014
92-09	NDE-712	04/13/1999	—	<0.0090
	NDE-713	04/13/1999	—	<0.0090
	NBC-999	07/28/1999	—	<0.0182
	NDE 859	10/26/1999	—	0.0167
92-10	NDE-716	04/14/1999	—	<0.0090
	NDE-717	04/14/1999	—	<0.0090
	NDE 860	10/26/1999	—	0.0047
92-11	NDF-754	01/25/1999	—	<0.0060
	NDE-709	04/13/1999	—	<0.0090
	NDE-754	07/29/1999	—	<0.0182

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Volatile (µg/L)	Zn (mg/L)
	NDE 829	10/20/1999	--	0.023
92-12	NDE-720,NDE-721	04/21/1999	--	<0.0090
	NDE 828,NDG 415	10/20/1999	--	0.0056
92-13	NDE 830,NDG 416	10/20/1999	--	0.0069
93-01	NDE 866	10/27/1999	--	0.0025
95-01	NDE-710	04/13/1999	--	<0.0090
	NDE 854	10/25/1999	--	0.0046
95-02	NDE 855	10/25/1999	--	0.0045
95-03	NDE-711	04/13/1999	--	<0.0090
	NBC-998	07/28/1999	--	<0.0182
	NDE 856	10/25/1999	--	0.0084
	NDE 857	10/25/1999	--	0.0083
95-04	NDE 858	10/25/1999	--	0.0086
95-06	NDE-719	04/14/1999	--	<0.0090
	NDE 851	10/21/1999	--	0.0171
95-07	NDE 819,NDG 414	10/18/1999	--	0.0125
95-08	NDJ 851	10/21/1999	--	0.0029
GB1126T	NDF-251	02/23/1999	See Table	0.0374
	NDE-745	04/14/1999	--	<0.0090
	NDG-471	07/29/1999	--	<0.0182
	NDG 475	10/14/1999	--	--
GB2820T	NDF-252	02/23/1999	--	<0.0060
	NDE-743	04/13/1999	--	0.107
	NDG-470	07/29/1999	--	0.0836
GB3127T	NDE-744	04/14/1999	--	0.0303
P92-02	NDE-715	04/14/1999	--	<0.0090
	NDF-770	07/28/1999	--	<0.0182
	NDE 821	10/18/1999	--	0.0209
P92-03	NDE 820	10/18/1999	--	0.0204
P92-04	NDF-759	01/26/1999	--	<0.0060
	NDE-705	04/12/1999	--	<0.0090
	NDE-755	07/29/1999	--	<0.0182
	NDE 823	10/19/1999	--	0.0148
P92-05	NDF-760	01/26/1999	--	<0.0060
	NDE-704	04/13/1999	--	<0.0090
	NDE-753	07/28/1999	--	<0.0182
	NDE 822	10/19/1999	--	0.0215
P92-06	NDF-763	01/27/1999	--	<0.0060

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Volatile (µg/L)	Zn (mg/L)
	NDE-702	04/12/1999	--	<0.0090
	NDE-757	07/29/1999	--	<0.0182
	NDE 818	10/15/1999	--	0.0382
P92-07	NDF-764	01/27/1999	--	~0.0110
	NDE-707	04/15/1999	--	<0.0090
	NDE-746	08/05/1999	--	0.0205
	NDE 827	10/20/1999	--	--
P92-09	NDF-753	01/25/1999	--	<0.0060
	NDE-708	04/13/1999	--	<0.0090
	NDE-756	07/29/1999	--	<0.0182
	NDE 826	10/19/1999	--	0.0134
R1-M1	NDE-997	09/14/1999	--	--
	NDJ-269	10/20/1999	--	--
	NDJ-303	11/17/1999	--	--
R1-M2	NDE-978	09/13/1999	--	--
	NDJ-260	10/20/1999	--	--
	NDJ-261	10/20/1999	--	--
	NDJ-250	11/17/1999	--	--
R1-M3	NDE-987	09/14/1999	--	--
	NDJ-725	10/20/1999	--	--
	NDJ-248	11/17/1999	--	--
	NDJ-249	11/17/1999	--	--
R1-M4	NDE-962	09/13/1999	--	--
	NDE-948	10/19/1999	--	--
	NDJ-242	11/17/1999	--	--
R1-M5	NDE-953	09/13/1999	--	--
	NDE-938	10/18/1999	--	--
	NDJ-278	11/16/1999	--	--
R2-M1	NDE-977	09/13/1999	--	--
	NDJ-267	10/20/1999	--	--
	NDJ-293	11/16/1999	--	--
R2-M2	NDE-979	09/13/1999	--	--
	NDJ-262	10/20/1999	--	--
	NDJ-294	11/17/1999	--	--
R2-M3	NDE-984	09/13/1999	--	--
	NDJ-257	10/20/1999	--	--
	NDJ-300	11/17/1999	--	--
R2-M4	NDE-988	09/14/1999	--	--
	NDJ-251	10/20/1999	--	--
	NDJ-238	11/16/1999	--	--

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample Location	Ticket Number	Sample Date	Volatile (µg/L)	Zn (mg/L)
R2-M5	NDE-993	09/14/1999	—	—
	NDJ-722	10/19/1999	—	—
	NDJ-237	11/16/1999	—	—
R2-M6	NDE-968	09/14/1999	—	—
	NDJ-708	10/19/1999	—	—
	NDJ-245	11/17/1999	—	—
R2-M7	NDE-963	09/13/1999	—	—
	NDE-949	10/19/1999	—	—
	NDJ-288	11/16/1999	—	—
R2-M8	NDE-959	09/13/1999	—	—
	NDE-945	10/18/1999	—	—
	NDJ-284	11/16/1999	—	—
R2-M9	NDE-954	09/13/1999	—	—
	NDE-939	10/18/1999	—	—
	NDJ-279	11/16/1999	—	—
R2-M10	NDE-952	09/13/1999	—	—
	NDE-936	10/18/1999	—	—
	NDJ-276	11/16/1999	—	—
R3-M1	NDE-980	09/13/1999	—	—
	NDJ-263	10/20/1999	—	—
	NDJ-296	11/17/1999	—	—
R3-M2	NDE-989	09/14/1999	—	—
	NDJ-252	10/20/1999	—	—
	NDJ-239	11/16/1999	—	—
R3-M3	NDE-964	09/13/1999	—	—
	NDE-950	10/19/1999	—	—
	NDJ-243	11/17/1999	—	—
R3-M4	NDE-955	09/13/1999	—	—
	NDE-940	10/18/1999	—	—
	NDJ-280	11/16/1999	—	—
R4-M1	NDE-981	09/13/1999	—	—
	NDJ-264	10/20/1999	—	—
	NDJ-297	11/17/1999	—	—
R4-M2	NDE-985	09/13/1999	—	—
	NDJ-258	10/20/1999	—	—
	NDJ-301	11/17/1999	—	—
R4-M3	NDE-990	09/14/1999	—	—
	NDJ-253	10/20/1999	—	—
	NDJ-240	11/16/1999	—	—
R4-M4	NDE-994	09/14/1999	—	—

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Volatile (µg/L)	Zn (mg/L)
	NDJ-723	10/19/1999	--	--
	NDJ-236	11/16/1999	--	--
R4-M5	NDE-969	09/14/1999	--	--
	NDJ-709	10/19/1999	--	--
	NDJ-274	11/16/1999	--	--
R4-M6	NDE-965	09/14/1999	--	--
	NDE-999	10/19/1999	--	--
	NDJ-289	11/16/1999	--	--
R4-M7	NDE-960	09/13/1999	--	--
	NDE-946	10/18/1999	--	--
	NDJ-285	11/16/1999	--	--
	NDJ-286	11/16/1999	--	--
R4-M8	NDE-956	09/13/1999	--	--
	NDE-941	10/18/1999	--	--
	NDE-942	10/18/1999	--	--
	NDJ-281	11/16/1999	--	--
R5-M1	NDE-976	09/13/1999	--	--
	NDJ-268	10/20/1999	--	--
	NDJ-292	11/16/1999	--	--
R5-M2	NDE-982	09/13/1999	--	--
	NDJ-265	10/20/1999	--	--
	NDJ-298	11/17/1999	--	--
R5-M3	NDE-986	09/13/1999	--	--
	NDJ-259	10/20/1999	--	--
	NDJ-302	11/17/1999	--	--
R5-M4	NDE-991	09/14/1999	--	--
	NDJ-254	10/20/1999	--	--
	NDJ-241	11/16/1999	--	--
R5-M5	NDE-995	09/14/1999	--	--
	NDJ-724	10/19/1999	--	--
	NDJ-235	11/16/1999	--	--
R5-M6	NDE-970	09/14/1999	--	--
	NDJ-710	10/19/1999	--	--
	NDJ-275	11/16/1999	--	--
R5-M7	NDE-966	09/14/1999	--	--
	NDJ-706	10/19/1999	--	--
	NDJ-290	11/16/1999	--	--
R5-M8	NDE-961	09/13/1999	--	--
	NDE-947	10/18/1999	--	--
	NDJ-287	11/16/1999	--	--

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 *

Sample Location	Ticket Number	Sample Date	Volatile ($\mu\text{g/L}$)	Zn (mg/L)
R5-M9	NDE-957	09/13/1999	--	--
	NDE-943	10/18/1999	--	--
	NDJ-282	11/16/1999	--	--
R5-M10	NDE-951	09/13/1999	--	--
	NDE-937	10/18/1999	--	--
	NDJ-277	11/16/1999	--	--
R6-M2	NDE-983	09/13/1999	--	--
	NDJ-266	10/20/1999	--	--
	NDJ-299	11/17/1999	--	--
R6-M3	NDE-992	09/14/1999	--	--
	NDJ-255	10/20/1999	--	--
R6-M4	NDE-967	09/14/1999	--	--
	NDJ-707	10/19/1999	--	--
	NDJ-291	11/16/1999	--	--
R6-M5	NDE-958	09/13/1999	--	--
	NDE-944	10/18/1999	--	--
	NDJ-283	11/16/1999	--	--
R7-M1	NDJ-705	09/14/1999	--	--
R9-M1	NDJ-704	09/14/1999	--	--
	NDJ-270	11/17/1999	--	--
R10-M1	NDJ-702	09/14/1999	--	--
	NDJ-271	10/21/1999	--	--
	NDJ-304	11/17/1999	--	--
R11-M1	NDJ-701	09/14/1999	--	--
	NDJ-305	11/17/1999	--	--
T1-D	NDE-971	09/14/1999	--	--
	NDE-972	09/14/1999	--	--
	NDJ-712	10/19/1999	--	--
	NDJ-247	11/17/1999	--	--
T1-S	NDE-974	09/14/1999	--	--
	NDJ-711	10/19/1999	--	--
	NDJ-246	11/17/1999	--	--
T2-D	NDE-975	09/14/1999	--	--
	NDJ-714	10/19/1999	--	--
	NDJ-227	11/16/1999	--	--
T2-S	NDE-926	09/14/1999	--	--
	NDJ-713	10/19/1999	--	--
	NDJ-226	11/16/1999	--	--
T3-D	NDE-927	09/14/1999	--	--
	NDJ-716	10/19/1999	--	--

Table A-19. Groundwater Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample Location	Ticket Number	Sample Date	Volatile (µg/L)	Zn (mg/L)
	NDJ-229	11/16/1999	—	—
	NDJ-230	11/16/1999	—	—
T3-S	NDE-928	09/14/1999	—	—
	NDJ-715	10/19/1999	—	—
	NDJ-228	11/16/1999	—	—
T4-D	NDE-929	09/14/1999	—	—
	NDE-930	09/14/1999	—	—
	NDJ-718	10/19/1999	—	—
	NDJ-231	11/16/1999	—	—
T4-S	NDE-931	09/14/1999	—	—
	NDE-932	09/14/1999	—	—
	NDJ-717	10/19/1999	—	—
	NDJ-232	11/16/1999	—	—
T5-D	NDE-933	09/14/1999	—	—
	NDJ-720	10/19/1999	—	—
	NDJ-234	11/16/1999	—	—
T5-S	NDE-934	09/14/1999	—	—
	NDJ-719	10/19/1999	—	—
	NDJ-233	11/16/1999	—	—
T6-D	NDJ-721	10/20/1999	—	—
	NDJ-306	11/17/1999	—	—
T99-01	NDF-771	07/30/1999	—	<0.0182
	NDF 775	10/14/1999	—	—
T99-03	NDF-772	07/30/1999	—	<0.0182
	NDF 774	10/15/1999	—	—
T99-05	NBC-997	07/28/1999	—	0.0218
	NDG 413	10/14/1999	—	—
^a A "<" indicates that the maximum concentration was				
^b Results determined using EPA Method 00-02-01; a m				
^c Estimated				

Table A-20. QA/QC Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample	Ticket	Sample	Alky-HCO ₃	As	Bromide	Ca	Chloride	Co	Cu	Fe	Fluoride	Gross Alpha
Location	Number	Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(pCi/L)
Equipment Blank	NDF-758	01/26/1999	—	<0.00010	—	~0.0498	<0.0160	<0.0010	<0.0010	—	~0.0400	<1.22
	NDE-731	04/12/1999	~4	<0.0010	—	~2.52	7.59	<0.0010	~0.0074	~0.0355	1.540	<1.39 ^b
	NDE-714	04/13/1999	~1	<0.0010	—	~1.74	3.73	<0.0010	~0.0031	~0.0431	1.440	<1.33 ^b
	NDE-749	07/27/1999	—	<0.0010	<0.0080	~0.0682	<0.102	<0.00020	~0.00041	<0.0059	<0.0180	<1.29 ^b
	NDE-759	07/30/1999	—	<0.0010	<0.0080	~0.109	~0.123	<0.00020	<0.00020	<0.0059	~0.0205	<1.29
	NDE-973	09/14/1999	—	<0.00040	<0.0080	—	0.121	—	—	<0.0090	—	—
	NDE-996	09/14/1999	—	<0.00040	<0.0080	<0.0335	<0.102 ^b	—	—	<0.0090	—	—
	NDJ-703	09/14/1999	—	<0.00040	—	0.0585	—	—	—	<0.0090	—	—
	NDE 809	10/12/1999	—	<0.0004	—	0.131	<0.110	<0.0002	<0.0008	<0.009	<0.018	<2.38 ^b
	NDJ-256	10/20/1999	—	<0.00040	—	0.113	<0.110	—	—	—	—	—
	NDJ-273	10/21/1999	—	<0.00040	—	<0.0335	<0.110	—	—	—	—	—
	NDE 862	10/26/1999	—	<0.0004	—	0.0616	<0.110	<0.0002	<0.0008	<0.009	<0.018	<1.4 ^b
	NDE 868	10/27/1999	—	<0.0004	—	0.185	<0.110	<0.0002	0.0018	<0.009	<0.018	<1.4 ^b
	NDE 874	10/28/1999	—	<0.0004	—	0.324	<0.110	<0.0002	0.003	0.0797	<0.018	<0.70 ^b
	NDJ-244	11/17/1999	—	<0.00040	—	0.101	<0.110	—	—	<0.0090	—	—
	NDJ-295	11/17/1999	—	<0.00040	—	0.0904	<0.110	—	—	<0.0090	—	—
	NDJ-307	11/17/1999	—	<0.00040	—	0.0894	<0.110	—	—	<0.0090	—	—
^a A "<" indicates that the maximum concentration was below the detection limit (number shown is detection limit). A "~" indicates an estimated value. An "R" in												
^b Estimated												

Table A-20. QA/QC Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample	Ticket	Sample	Gross Beta	K	Mg	Mn	Mo	Na	NO ₃	NO ₃ +NO ₂ As N	Pb	Pb-210	Ra-226
Location	Number	Date	(pCi/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(pCi/L)	(pCi/L)
Equipment Blank	NDF-758	01/26/1999	<2.19	~0.0610	~0.0220	~0.0018	<0.0010	~1.49	—	<0.004 ^b	<0.0010	<0.27 ^b	<0.16
	NDE-731	04/12/1999	<2.21	~0.338	~1.85	~0.0013	<0.0020	7.28	—	0.116	<0.0010	<0.23	0.95
	NDE-714	04/13/1999	<2.20	~0.199	~1.16	~0.0033	<0.0020	~4.05	—	~0.0764	<0.0010	<0.25	<0.15
	NDE-749	07/27/1999	<2.66	<0.0445	<0.0311	<0.00090	<0.00090	<0.863	—	<0.012 ^b	<0.00020	<0.25 ^b	<0.15
	NDE-759	07/30/1999	<2.66	<0.0445	<0.0311	<0.00090	<0.00090	<0.863	—	~0.0405	<0.00020	<0.24 ^b	<0.20
	NDE-973	09/14/1999	—	—	—	0.00084	<0.00080	—	0.147	—	—	—	<0.14
	NDE-996	09/14/1999	—	<0.0363	<0.0425	0.0022	<0.0008 ^b	<0.559	<0.0400	—	—	—	—
	NDJ-703	09/14/1999	—	<0.0363	<0.0425	<0.00080	~0.0014	<0.559	—	—	—	—	—
	NDE 809	10/12/1999	<4.39	<0.0363	<0.0425	<0.0008	<0.0008	<0.559	—	<0.012	<0.0003	<0.26	<0.75
	NDJ-256	10/20/1999	—	<0.0363	<0.0425	—	<0.00080	<0.559	0.0145	—	—	—	—
	NDJ-273	10/21/1999	—	<0.0363	<0.0425	—	<0.0008	<0.559	<0.0400	—	—	—	—
	NDE 862	10/26/1999	<2.64	<0.0364	<0.0425	<0.0008	<0.0008	<0.559	—	0.0155	<0.0003	<0.26	<1.53
	NDE 868	10/27/1999	<3	<0.0364	<0.0425	0.00095	<0.0008	<0.559	—	0.0281	<0.0003	<0.25	<0.55
	NDE 874	10/28/1999	2.59	0.591	<0.0425	0.004	<0.0008	0.603	—	0.0466	0.00093	<0.29	<0.34
	NDJ-244	11/17/1999	—	<0.0363	<0.0425	0.0014	<0.00080	<0.559	<0.0100	—	—	—	—
	NDJ-295	11/17/1999	—	<0.0363	<0.0425	<0.0008	<0.00080	<0.559	<0.0100	—	—	—	—
	NDJ-307	11/17/1999	—	<0.0363	<0.0425	<0.0008	<0.00080	<0.559	0.857	—	—	—	—
^a A "<" indicates that the maximum concentration indicates that the result was determined unusable through data validation. All samples were filtered in the field unless otherwise noted.													
^b Estimated													

Table A-20. QA/QC Chemistry Data Collected At and Near the MMTS During 1999 ^a

Sample	Ticket	Sample	Rn-222	Se	SO ₄	TDS	Th-230	U	U-234	U-238	V	Zn
Location	Number	Date	(pCi/L)	(mg/L)	(mg/L)	(mg/L)	(pCi/L)	(mg/L)	(pCi/L)	(pCi/L)	(mg/L)	(mg/L)
Equipment Blank	NDF-758	01/26/1999	<15	<0.00010	<0.040	23.0	<0.80	<0.0010	—	—	~0.0012	<0.0060
	NDE-731	04/12/1999	—	<0.0010	11.0	—	<1.2	<0.0010	—	—	<0.0010	0.0296
	NDE-714	04/13/1999	<14	<0.0010	4.76	45.0	<1.2	<0.0010	—	—	<0.0010	~0.0164
	NDE-749	07/27/1999	—	<0.0010	<0.0310	<10.0	~0.62	<0.00020	—	—	~0.00063	<0.0182
	NDE-759	07/30/1999	—	<0.0010	0.237	<10.0	<0.60	<0.00020	—	—	<0.00060	<0.0182
	NDE-973	09/14/1999	—	<0.00010	<0.0310	—	—	<0.00020	—	—	<0.0010	—
	NDE-996	09/14/1999	—	<0.00010	0.124	—	—	0.00023	—	—	<0.0010	—
	NDJ-703	09/14/1999	—	<0.00010	—	—	—	<0.00020	—	—	<0.0010	—
	NDE 809	10/12/1999	—	<0.0001	<0.0310	—	<0.6	<0.0002	—	—	<0.001	0.0051
	NDJ-256	10/20/1999	—	<0.00010	<0.0310	—	—	<0.00020	—	—	<0.0010	—
	NDJ-273	10/21/1999	—	<0.00010	0.0761	—	—	<0.00020	—	—	0.0028	—
	NDE 862	10/26/1999	<15	<0.0001	<0.0310	<10	<0.6	<0.0002	—	—	<0.001	0.0024
	NDE 868	10/27/1999	<15	<0.0001	0.449	<10	<0.6	<0.0002	—	—	<0.001	0.0046
	NDE 874	10/28/1999	18	<0.0001	0.159	<10	<0.6	<0.0002	<0.8	<0.12	<0.001	0.0127
	NDJ-244	11/17/1999	—	<0.00010	0.173	—	—	0.00053	—	—	<0.0010	—
	NDJ-295	11/17/1999	—	<0.00010	0.0884	—	—	<0.00020	—	—	<0.0010	—
	NDJ-307	11/17/1999	—	<0.00010	0.0708	—	—	<0.00020	—	—	0.0011	—
^a A "<" indicates that the maximum concentration noted.												
^b Estimated												